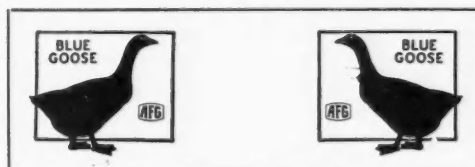


Vol. 3 No. 1

TAMPA, FLA., JANUARY, 1922

15 Cents a Copy



The Shippers Share

With reduced freight rates in sight, even though the reductions prove inadequate, shippers look to 1922 to give them a more equitable share of the prices the ultimate consumers pay than could be secured in the past year.

Growers who exercise care in the production, harvesting, handling, grading and packing of their crops have taken the first step toward assuring themselves of a fair share of the price the consumer pays. But the highest efficiency in production, grading, and packing will not bring its full reward in the account sales unless coupled with equally high efficiency in marketing.

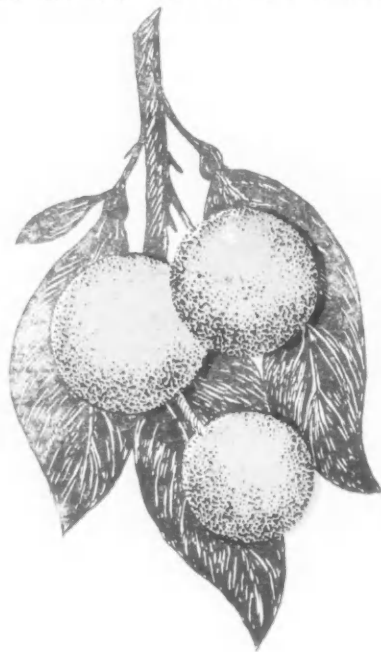
Shippers of limited production, with commodities to sell only for a brief season can never expect to maintain marketing machinery of their own capable of bringing the best results. The ideal marketing machine is a sales force of men of experience covering every carlot market every day in the year with a complete line of fruit and vegetables. This machine must be backed by adequate capital, reinforced by sound advertising, and managed by men accustomed to marketing on a national scale.

To shippers who pick, grade and pack their fruit with care the American Fruit Growers offers the services of a selling force handling a complete line in more than 160 markets of America the year 'round.

American Fruit Growers Inc.
Orlando, Florida

SPECIAL FAIR NUMBER

A RECORD



A PROMISE

1921

The year just closed was one of the most successful years in the history of THE STANDARD GROWERS EXCHANGE. Both in the volume of business handled and in the satisfactory service rendered our clients, we have established a record which is highly gratifying to the officers of this organization and to the growers whose fruit we have handled.

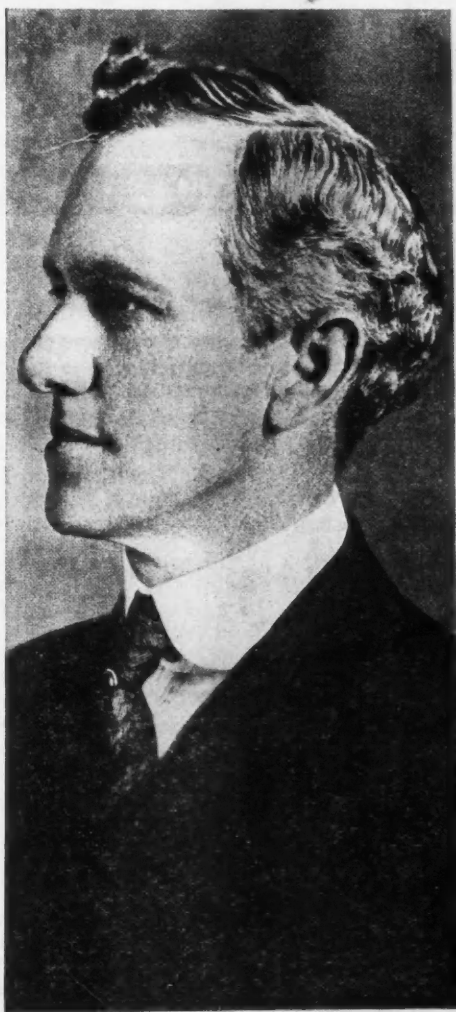
Florida citrus growers have this season received prices for their fruit far in excess of their anticipations. We attribute this fact in a large measure to the affiliation and co-operation which has existed between the Standard Growers Exchange and the Florida Citrus Exchange, which has resulted in solving the perplexing problem of distribution which has heretofore operated against the grower and shipper. Without this co-operation no such satisfactory marketing conditions and favorable prices could have existed.

1922

During the year just opening, we shall bend every effort to still further increase the efficiency of our service and through continued co-operation with the Florida Citrus Exchange to still further augment the benefits to the grower in attaining the highest possible degree of efficiency in distribution.

We are in the market for the fruit of growers who are not affiliated with the Florida Citrus Exchange, and are prepared to pay the highest prices for fruit on the trees. If you have not yet sold your fruit, write, wire or phone us.

Standard Growers Exchange
Orlando, Florida



GOVERNOR CARY A. HARDEE
Guest of Honor at the South Florida Fair
on Governor's Day.

Growth

in service to
the growers of

Florida Citrus Exchange

A dozen years ago the citrus growers of Florida launched their own marketing organization, to put an end to unbearable conditions.

From this beginning, after the experimental period was past, naturally developed the movement to make co-operative purchases of supplies possible for members of the Florida Citrus Exchange. Thus the Exchange Supply Company was born.

It was a logical step to the manufacture of fertilizers and crate materials by the growers in their own plants, with no profits between manufacture and the growers' own packing houses, but with business so handled there has been no demoralization of existing trade conditions.

Since then has followed a horticultural service, which puts unbiased scientific knowledge of trained grove experts at the service of the Florida Citrus Exchange members—to the end that they shall be enabled to produce more fruit on a given area, and fruit of higher grade.

Also, a laboratory service which assures members of the Exchange of the precise nature of the materials purchased to be used in the manufacture of their fertilizers, and makes actual analyses of all mixtures before these are shipped to growers from the co-operative plants where they are manufactured.

In addition, this laboratory service includes soil analyses for growers, and much research work looking into the utilization of cull citrus fruits in various ways of possible commercial value—when Florida's citrus by-products problem is solved it will undoubtedly be through the investigations of the growers' organization.

Now comes financial service, through the operations of the Growers' Loan and Guaranty Company, which for the first time has made generally available to Florida Citrus Exchange members loans upon their crops at reasonable interest rates, and without necessity for loss in value of fruit by premature sale.

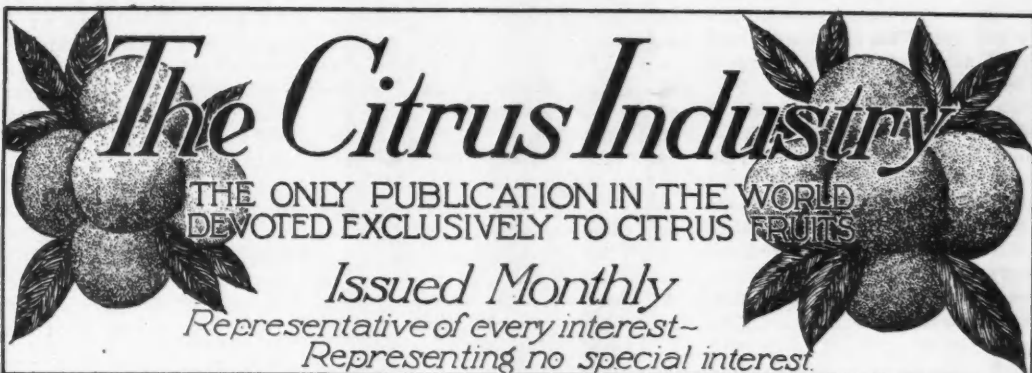
Ask the manager of any local Association or any Sub-Exchange or write to the business manager of the Florida Citrus Exchange, Tampa.



FLORIDA

CITRUS EXCHANGE





The Citrus Industry

THE ONLY PUBLICATION IN THE WORLD
DEVOTED EXCLUSIVELY TO CITRUS FRUITS

Issued Monthly

*Representative of every interest—
Representing no special interest.*

Vol. 3

TAMPA, FLORIDA, JANUARY, 1922

No. 1

The South florida fair

The South Florida Fair to be held at Tampa February 2 to 11, will unquestionably bring together one of the greatest, if not the very greatest, displays of citrus fruits ever seen in Florida.

Recognizing the importance of this great industry, the management of the South Florida Fair has this year put forth even greater effort and offered even greater inducements than ever before to make this feature of the fair representative of the entire citrus growing sections of the state.

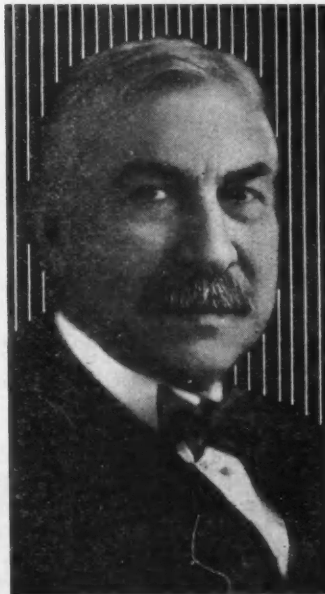
Practically every county in the citrus belt has already engaged space at the fair, and great rivalry between the counties is certain to follow this preliminary interest. Not only will the counties of the West Coast and Highland sections of the citrus belt be represented, but for the first time in the history of the South Florida Fair, many of the citrus producing counties of the East Coast have taken space and will make collective exhibits of citrus and other sub-tropical fruits.

St. Lucie county, which last year took first prize at the Jacksonville Fair, will this year vie with Pasco and Polk, Manatee and DeSoto, Hillsboro and Pinellas, for the first place in the horticultural exhibits. Marion county will again be in line with a display of all agricultural products, and will make a strong bid for favor in the citrus line.

Up to date, twenty-seven counties and one community have engaged space for collective exhibits, and so great has been the demand that Horticultural Hall has proven entirely inadequate to house the many exhibits and it has been found necessary to

draft space in other buildings for horticultural exhibits.

The counties which have already engaged space for collective exhibits are: Brevard, Columbia, Citrus, Clay, Charlotte, DeSoto, Escambia, Gadsden, Glades, Hernando, Highlands, Hardee, Hillsboro, Lee, Lake, Marion,



President W. G. Erorein

Manatee, Polk, Pinellas, Pasco, Palm Beach, Putnam, St. Lucie, St. Johns, Sarasota, Suwanee and Taylor. In addition to these county exhibits, a community exhibit will be made from the Homestead section in Dade county.

With one or two exceptions, the counties named are all citrus producing territory, and the large number of counties represented assures the largest exhibit of citrus fruits ever shown at this fair, if not the largest ever shown in the state.

But, while citrus will hold the major attention of most visitors to the South Florida Fair by reason of the importance of this industry in the development and prosperity of the state, it will be but one of many features of this great fair.

Foreign Exhibits

Mexico and Canada will each be represented by national displays on a grand scale. Mexico particularly will make an effort to outdo even last year's exhibit which attracted such wide attention and favorable comment. Other foreign countries also will be represented on a smaller scale. Indeed, the fame of the South Florida Fair has apparently reached to the far ends of the earth, and the exposition is recognized as one of the leading expositions of its kind in the land.

The New System

Perhaps one of the most important matters in the building of the 1922 fair has been the rearrangement of the prize award system which will permit every county in the state an equal chance at winning prizes. Under the old system a county which was not a citrus county had but little chance of coming to the South Florida Fair and winning a prize in competition with citrus counties. Under the new system there will be a special prize for the best grain display, the best meat display, the best agricultural, mineral and manufactures

Eight

display, sugar cane and can products displays, fish and fish products displays, dairy products displays and other displays. This plan was worked out and announced early following the 1921 fair.

From a government official in Washington came a request for information concerning the fair from Panama late in June. Earlier in that month A. J. Cuesta, Jr., had suggested the permanent Florida exhibit, after much favorable discussion, resulted recently in the purchase of a large museum of Florida birds, fish, mammals and reptiles to be shown for the

THE CITRUS INDUSTRY

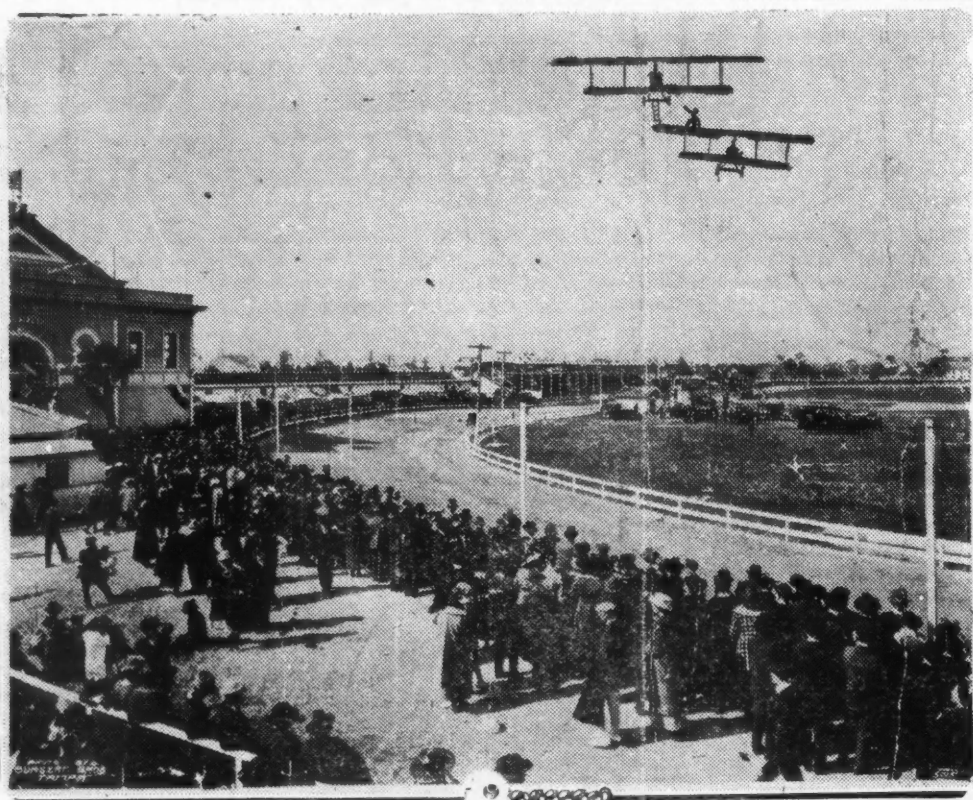
cess of preparation. Early in August it was announced that \$6,000 had been set aside for free acts at the 1922 fair, and that the Johnny Jones Carnival Company would return to Tampa for the fair. J. E. Wall, director of the educational department of the fair, announced that the exhibit in his department would be 50 per cent larger in 1922 than it was in 1921. St. Lucie county, a new county to come to the South Florida Fair, announced her decision the first of August.

The unusual interest manifested in the fine arts exhibits of the 1921 fair demonstrated to the directors the ne-

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associations began choosing the South Florida Fair for their own shows of individual breeds and for the holding of their annual meetings. There were no club shows at the 1921 fair. The American Barred Plymouth Rock State club was one of the first to decide upon the holding of the winter's meeting and show in Tampa. The state Silver Laced Wyandotte club, the Single Comb Brown Leghorn clubs followed, making a total of four state poultry clubs which have already decided to hold their shows and annual meetings in Tampa during the fair. In addition to the good premiums



RACE TRACK AND GRAND STAND

first time at the coming fair. Officers of the fair were re-elected on June 7.

Poultry Shows Coming

Early in June it was announced that the State Barred Rock poultry show and annual meeting would come to the South Florida Fair. That announcement has since been followed by announcement that other state poultry associations would meet in Tampa during the fair. Department heads were named for the coming South Florida Fair on July 27, and various state agents announced that exhibits for the coming fair were in prob-

cess of creating a department of fine arts, and the department of "Fine and Applied Arts" becomes a definite department at the coming fair. Ike Maas, responsible for the fine art exhibit of the past fair, was chosen director of the new department and Walter Collins, instructor and director of "Seminole Arts," was named superintendent of the department. Mr. Collins recently estimated that instead of an exhibit valued at \$50,000 as in 1921, the 1922 art exhibit would not fall far short of a value of \$200,000.

Early in the year 1921 state poultry

which are being offered by the South Florida Fair, each of the clubs is bringing its own quota of special prizes and premiums. An increase of not less than 25 per cent in the volume of the poultry exhibit is confidently expected.

"Florida Exhibit."

The exhibit which has been called a "Permanent Florida Exhibit" and a "Natural History Exhibit," was planned for several months before it became an assured fact, but it is sure to become one of the most attractive of the new features of the fair. The nucleus for what is expected to be-

come a most comprehensive permanent Florida exhibit was secured when the fair association contracted with H. L. Ferguson, naturalist and taxidermist of Boca Grande, for what will be a complete exhibit of birds, mammals, fish and reptiles of Florida. Mr. Ferguson has but recently made Tampa his headquarters by the establishment of a workshop on the fair grounds and will spend every day between now and fair time either in collecting his exhibit or in its preparation. Few have a conception of the magnitude of the collection he will place on display for the first time at the coming fair. To his collection will be added a collection of Florida woods which is the most complete in the state, a very beautiful collection of Florida butterflies and mosses, and an exhibit of Florida's phosphates.

A motorcade will bring 200 dairymen, ice cream men and milk dealers to Tampa during the fair for a three day convention of the Florida Dairy Association. The men will come from all of north Florida and from the east coast, and will gather in Jacksonville for a trip through the orange-growing section of the state enroute to the South Florida Fair. The trip was planned, says Bernard Thyson, president of the dairy association, that other sections of Florida might learn what is to be found in South Florida. The fair is expected to be the chief feature of the three-day meeting and a place will be left for it on the program. In fact arrangements are being made to give poultrymen and dairymen and others a convention hall on the fair grounds. It will be located in one of the new buildings and equipped to take care of all of the many meetings which will be held in Tampa in connection with the fair.

Cats and Dogs a Feature

The Cat Show and the Dog Show are both to be new features of the coming South Florida Fair. Plans have been under way for the first an-



General Manager P. T. Streider

nual cat show for some time, and while the dog show is of more recent origin remarkable progress is being made in preparing for the coming fair an exhibit which will win for the South Florida Fair the recognition of the American Kennel Club. An official judge of the Cat Fancier's Association, incorporated, of New York, will be secured for the coming cat show. There will probably be not less than 75 cats which are valued at from \$100 to \$800 each. Tampa has a Cat Fanciers' Association of 30 members and the Flower State Cat club, of Jacksonville, is expected to send some valuable cats for the show. The dog show is in charge of M. B. MacGregor, of the Bayshore Manor, and not less than 100 dogs are expected for the show. Two days, Feb. 7 and 8, have been set aside for the cat show,

and the following two days for the dog show.

While it is certain that a large number of long haired cats will be on exhibition, the management of this division wishes to make it plain that the same premiums and prizes will be offered for entries in the short haired classes as in the classes for long haired cats. It is the hope of the management that many owners of short haired cats will enter their animals in this show.

A very interesting exhibit will come to Tampa with the first exhibit of St. John's county at the South Florida Fair. Dr. DePhampalis, of St. Augustine, is raising silk worms at that place and producing silk, and he has consented to send an interesting and instructive exhibit dealing with one of Florida's newest industries to Tampa.

Latest of the new features to be added to the fair is the "Manufacturers' Exhibit" for which a new building is being erected on the South Florida Fair grounds. The plan for such an exhibit was suggested by Albert Thornton, director of exhibits and exhibitors, and Mr. Thornton has worked hard for its accomplishment even though Tampa manufacturers have been more than ready to accept the plan when it was placed before them. The purpose of the exhibit is to acquaint Tampan, winter visitors and fair visitors with the number and variety of the products manufactured in Tampa.

Manufacturers to Exhibit

The new building will contain space for approximately eighty exhibits. More than fifty of those exhibits had been booked before plans for the building were completed and the building ordered erected by the South Florida Fair Association. It was explained to the Tampa manufacturers that space on the fair grounds is at a premium and that the fair association is show-

A GROUP OF SOUTH FLORIDA FAIR DIRECTORS



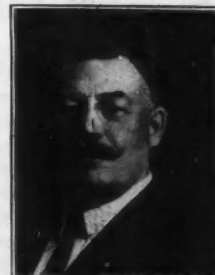
Albert Thornton



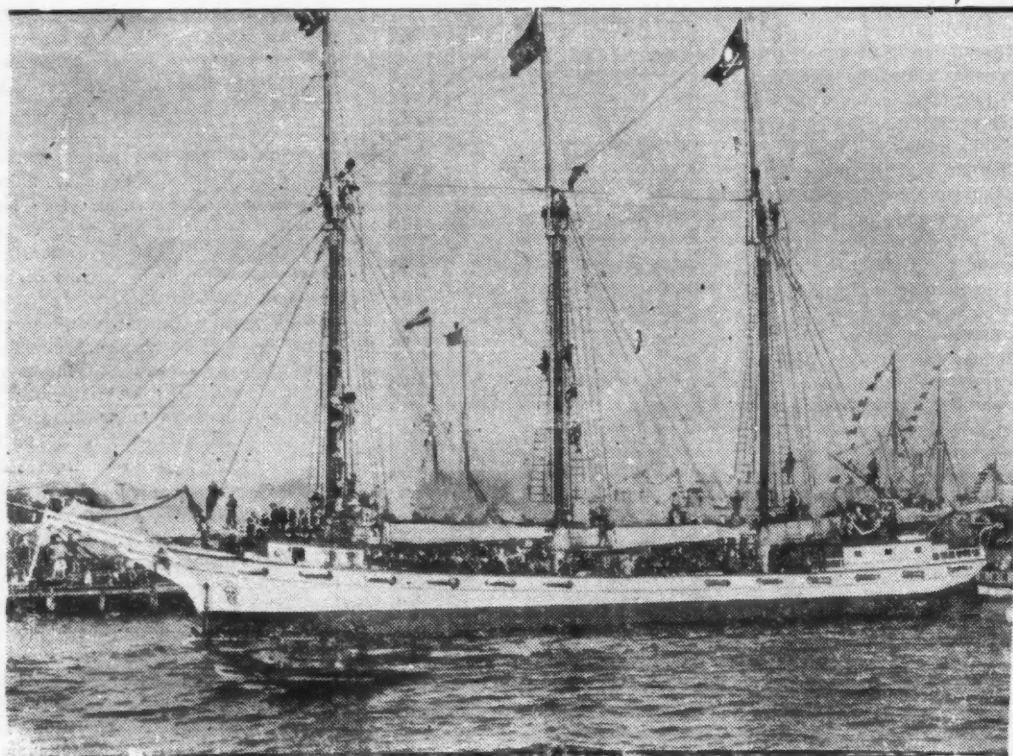
J. E. Wall



H. E. Snow



C. C. Nott



IMPERIAL YACHT OF GASPARILLA KING AND KREWE

ing its willingness to co-operate with Tampa manufacturers in building the new building and dedicating it to a Tampa manufacturers' exhibit.

Numbers of new features are to be added to the usual program of free acts. One of these features is auto polo, being shown in Tampa and

South Florida for the first time. The finest teams obtainable have been secured and the attraction is proving one of the best at this season's fairs.

A GROUP OF SOUTH FLORIDA FAIR DIRECTORS



A. L. Allen



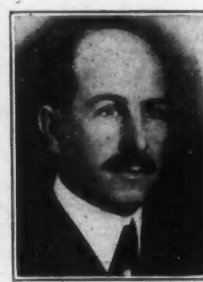
C. R. McFarland



G. N. Benjamin



C. H. Brown



Dr. L. A. Bize

BURNED CITRUS FRUIT

Sunburning of citrus fruits is hard for many people to understand. In fact, even the scientists are not of one accord on this question. However, it seems that the following theory, advanced by Dr. O. F. Burger, of the Florida Experiment Station, is the most plausible:

A fruit requires a certain amount of water. In years like the present one, when the temperature has been so high and there has been so little rain, the evaporation from the fruit has exceeded the water supply. As a consequence, there is less water in the fruit than it needs. This causes a dying of the fruit tissue and, there-

fore, burning of the fruit.

Burned fruit is more liable to the germs which cause decay because of the weakened condition of its tissue.

The employing of a good county or home demonstration agent is just about the best investment a county can make.

Gummosis and Frenching

By Eugene L. Pearce, Clearwater
This is not a scientific paper. I shall mention no measurement finer than the thousandth part of an inch; no time limit shorter than the hundredth part of a second. I shall not differentiate sharply between a fungus, a female bacteria and a group of pupae.

This paper will represent some part of the experience of a plain grower. I trust it will possess one quality worth while—brevity.

And now to business:

Gummosis is a serious matter, when neglected. If noted when tree is first attacked, it is one of the least difficult of citrus disorders to check. Whenever the grower sees gum breaking from the bark of a grapefruit tree or a tangerine—in my section it is chiefly these varieties of the citrus which are attacked—diagnose the trouble as Gummosis and go to work. Should the trouble prove not to be Gummosis you have ordinarily done no particular harm. If the gumming is caused by Gummosis, you have bettered the situation.

In the above advice, the writer is assuming that Citrus Canker has been virtually eradicated in Florida and that Psorosis has not yet been listed as an incurable disease.

The treatment for Gummosis is simple. Cut out all bark which seems to be affected by the disease, until bark is clear white where cut. The same rule applies to the sap surface beneath the bark. Scrape it until the wood is white and free of all discoloration especially of those raised, pulpy spots which seem to be the seats of infection. Examine the tree carefully, the trunk and the limbs, for other evidence of the disease. Treat all gumming, even the slightest, as prescribed.

Three or four days after these surgical operations, when sappy surface is entirely dry, paint all bared surfaces with Bordeaux paste or protexol (Avenarius carbolineum). In rather young trees it is safest to dilute the protexol to half its pure strength by adding whaleoil soap and water. Every grower knows of this treatment. The only element in it which has never been sufficiently emphasized is prompt action. The work is trifling, if done in time. Vigilance and immediate treatment are the chief ingredients in the remedy.

While the "stitch in time" adage is the secret which usually marks the difference between the man who grows oranges for a profit and the man who

grows them to look at, with Gummosis, let me repeat, prompt attention is the all-essential.

After such a treatment, inspect the trees attacked at intervals for a recurrence of the disease. Nip a recurrence at once. Should you fail to inspect your trees frequently and systematically, or should you neglect to treat them promptly when trouble is found, Gummosis will often become so firmly established, from lower trunk to upper branch and throughout the entire life-system of the tree, that it becomes impossible to check its work of destruction.

Gummosis seems to be a fungous disease, but as this paper is merely in the nature of a few practical suggestions from one grower to other growers, I am only interested in effects and treatment and not in cause or causes. From my personal experience I should say Gummosis is contagious. Where a tree affected by Gummosis is not promptly treated, other trees in the vicinity will often contract the disease. It is recommended that a cloth be spread around the trunk of a tree about to receive treatment and that all bark and scrapings be gathered up carefully and burned.

A new and more deadly form of Gummosis in all probability must be added to the enemies of the citrus—the disease identified as Psorosis.

The writer has recently lost two vigorous young seedling grapefruit, about twelve years old. One of these trees, in the judgment of several expert observers, was killed by lightning. Tops of other trees close by were affected. The bark about the tree from the crown to a distance of two feet above the ground was entirely dead.

The second tree at first showed no sign of wilting, but the bark about the crown was without life and had much the appearance of the tree described. It was entirely girdled, but there seemed to be no gumming on trunk or limbs. Trees in the vicinity did not appear to be affected in the least.

Reasoning from the angle of elimination, the tree in question did not seem to be affected by Blight, nor would the usual lightning tests apply. It did not have the appearance of Mal-di-goma. Also the seedling grapefruit is not subject to Mal-di-goma unless strongly exposed by contagious contact, which was not the condition in this case.

It may be that this new manifestation is a physiological disease. Cer-

tainly it seems to have the stealthy, deadly action of Blight, but as a preliminary the bark was killed above the crown. The tree was entirely girdled.

There is always the possibility, in the instance cited, of a single-track lightning stroke—somewhat like our ex-President's mind—one of those strokes which had some place in particular to go and went right there.

Frenching

Under this head the practical grower is interested in cause, for Frenching in many cases is the result of an overt act by the grower.

Frenching may be caused by any of a number of conditions unfavorable to the health of the citrus. Green vegetation in quantity, plowed under in the summer or early fall, inducing fermentation and greatly increasing the humic acid condition of the soil, will bring about Frenching.

Dead leaves or grass in quantity buried close about a tree will cause the same condition. I know, for this was a personal experiment.

Deep plowing, thereby breaking more roots than the trees can afford to lose when carrying a heavy top, will sometimes produce Frenching. The working balance between root and branch is often upset by such a practice.

Removing the cover crop from a grove, for any purpose, or failing to grow such a crop once a year, until the humus becomes insufficient, will result in depleted vitality and bring on an attack of Frenching in connection with Melanose and other diseases which are always associated with trees whose reserve of strength is at low ebb.

In building up quickly and renewing the soil bacteria, use organic manures as well as chemical sources of food.

Land not properly drained will cause Frenching and in unusually wet times great and permanent damage to the trees.

Remedy: Avoid the bad practices and experiments suggested above. An orange grove is not a plaything. It is a business, and one that has its problems. There are losses sufficient and unavoidable without courting new trouble. When in doubt, consult the Experiment Station. Let the State of Florida pay for the mistakes which you hanker to make yourself.

Barnyard manure left carelessly exposed to the rains and sun loses from 40 to 70 percent of its value.

The Citrus Industry

ISSUED MONTHLY

By

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LET'S STIMULATE STATE PRIDE

We were talking to a Californian the other day. He had just arrived in the state of Sunshine and Flowers—and he was disappointed.

"I had been told," said he, "that Florida is much warmer than California, and I find it just the reverse. Why; in San Diego, where I live, the thermometer stands at 68 degrees the year 'round. Of course it may get up to 69 or down to 67, but 68 is the year 'round standard of temperature."

His attention called to the report of the weather bureau for that particular day, which showed a temperature of 46 degrees at San Diego, our California visitor declared that the report was wrong. It simply couldn't be possible.

Now, do you know, while we are inclined to believe the weather bureau in preference to a biased citizen of San Diego, we rather admire the spirit which prompted his denial. State pride and state loyalty were back of his statement. And state pride and state loyalty are two things—and about the only things, that we of the South lack.

We know that this statement is going to be challenged and severely criticised, and yet, we repeat, we of the South are lacking in state pride and state loyalty.

But haven't we as individuals and collectively, fought to maintain the honor of the South and the integrity of Southern institutions?

Oh, yes; and we are ready to fight again, if necessary, for the honor and reputation of our state.

And yet again, we repeat, we of the South are lacking in state pride and state loyalty.

Here's the proof.

How often do you hear remarks like these?

"This is the best city in the South."

"No state in the South has a soil like ours."

"I never saw better corn raised in the South."

"That is the finest steer I ever saw in the South."

"This is the greatest fair in the South."

We even libel the women whom we adore. As for instance this:

"Hasn't she a lovely complexion? I never saw anything like it in the South."

Why all this qualification, save that unconsciously we are disloyal to our state and our sec-

tion?

If this is the best city in the South, it is the best city in the world, and it needs no qualifying clause in its description.

If it is the best state in the South, it is the best state in the Union—bar none.

If it is the best soil in the South, it is the best soil in the universe, not excepting the famed Valley of the Nile.

Don't you know, that the highest acre yield of corn ever grown was raised by school boys of North Carolina and Mississippi? Why then qualify your statement?

A Mississippi bull held the world's championship at the Fat Stock Show in Chicago year after year—until finally he was burned in his car on a return journey from the scene of his victories. Why, then, belittle his achievements by trying to circumscribe the field of his accomplishments?

And our women! If a complexion is beautiful in Florida, it would be beautiful in Italy or in Greece, in California or Colorado.

Even in the citrus world, we of Florida are prone to qualify our own achievements. We talk of what has been done or is being done in California, forgetting that even greater things have been and are being achieved in Florida.

Let's cut out the qualifying clause. We would fight another if he intimated that any state or any city in the world could surpass us. Let's fight ourselves when we catch ourselves unconsciously belittling our state or our community by adding the qualifying clause to a statement which needs no qualification. Let's get more of the Western spirit of state pride and state loyalty, and be as honest in defending our state and our section against our own unconscious slander as we are in defending it against the slander of an outsider.

FINE CITRUS EXHIBITS

Besides the numerous county and community fairs being held in South Florida during the winter season, and at all of which citrus holds the boards as the leading feature of exhibits, two fairs of greater magnitude will be held during the month of February. These are the South Florida Fair at Tampa, February 2 to 11, and the Sub-Tropical Mid-Winter Fair at Orlando, February 14 to 17.

Both of these great fairs will feature citrus, as both are centers of great citrus activity and the territory from which the principal exhibits will be drawn is known as the finest citrus producing section of the state, if not of the world.

The Citrus Industry presents in this issue advance information regarding each of these fairs, and it has no hesitancy in urging its readers, both among the permanent residents of Florida and the winter visitors to visit one or both of these exhibitions and learn at first hand just what may be done in Florida in the way of horticultural and agricultural endeavor.

Whether or not that anticipated freeze comes this winter, that investment in "frost insurance" was money well spent. The insurance provided by the grove heater does not lapse at the end of one season, but extends its protection over a long period of years.

A FAVORED SECTION

Residents of Florida and particularly of the citrus producing sections of Florida, have reason to rejoice that their section is not as other sections.

If we have been inclined to complain of our lot, we should bring up at once with a jerk and cease complaining.

While it is true that we have felt the pinch of readjustment, that prices have been unsatisfactory and collections slow, we still have reason to rejoice if only we will look about us and compare our lot with that of other sections.

Here in South Florida we are building homes and business blocks, roads and bridges, increasing the pay of our teachers and arranging for great public improvements along every line. Prosperity is not as great as during the years of war-time prices, but the wheels of progress have not been stayed nor has the pinch of poverty been felt in any legitimate line of endeavor.

Compare this condition with that of other sections and rejoice.

Here is what a group of Chicago financiers have to say of conditions in the Middle and Far West:

"That bonds for public work in the farming states will not be issued so freely this year as in the past, and that all issues will be far more closely scrutinized by the citizens, is a development which has engaged the attention of financiers here.

"Chicago financiers play a prominent part in financing the needs of the Middle West and have watched closely recent developments in the farming districts, where mass meetings have been held frequently to bring about lower taxation and reduce living costs, because of the present low prices of farm products.

"There have been a number of such meetings in the great farming sections of the Middle West. Five hundred taxpayers of Story county, Iowa, held a mass meeting a few days ago to protest against local high taxes. They were farmers and business men who depend upon farmers for trade, and they agreed unanimously that public expenses and taxes must be lowered to meet the decline in prices of farm products. Similar mass meetings have been held in Plymouth, Mitchell and nearly a score of other Iowa counties.

"In many of these meetings concrete proposals for the lowering of public expenditures were recommended by resolution. Among these were the curtailment of salaries of public officials and school teachers and the reduction of the expense of road building by at least 25 per cent.

"The boards of supervisors of seven Northeast Iowa counties held a convention at Dubuque a few days ago and agreed to reduce prices paid for road work to nearly 50 per cent less than the peak prices paid during war time, and to make many other important reductions in expenses.

"These meetings are not confined to the Middle West. In Montana a state convention has been called to devise methods for reducing public expenses, and other western states are expected to follow suit, with corn and oats now selling at from 20 to 25 cents per bushel on the farm.

"Several of the conventions went on record as opposed to the issuance of any more bonds by

their states or counties, and it was the general sentiment that all bond issues in the future shall be passed upon directly by the voters.

"The fact that over a billion dollars in state and municipal bonds were issued in 1921, bearing an interest charge of approximately \$50,000,000 a year, which must be met by taxation, was a potent factor in inducing action by the meetings, and several of them took initial steps, by resolution, to require legislative candidates to pledge themselves to vote for laws prohibiting further bond issues unless authorized by direct vote of the people.

"It is this feature which has engaged the attention of Chicago financiers. The action of the western farming communities is regarded by them as an index concerning what is likely to happen in 1922, and therefore a distinct curtailment of the amount of state and municipal bond issues is anticipated."

THE TRADE JOURNALS

Charles E. Byrne, secretary-treasurer of Steger & Sons Piano Manufacturing Company, Chicago, Illinois, says:

"To reach the dealers in any industry, my first move would be to advertise in all of the trade journals in that particular line. Direct-by-mail and national magazine advertising are very valuable, but, to get to the dealers, I have found that the trade journals are not only essential but indispensable."

Spraying and fertilization are essential to the proper production of a crop, but no more so than the protection of the crop from injury by frost after it has been produced. No amount of fertilization, cultivation or spraying will save the crop or the trees when Jack Frost goes tumbling down to the twenty-degree mark. Only orchard heaters can save it then.

What are you doing to insure a greater percentage of "fancy" and "bright" fruit and a smaller percentage of "golden" and "russet" next season?

Diversified fruit growing is proving popular with citrus growers. Many a waste acre will be planted to avocados and other sub-tropical fruits this season.

"Home grown fruits on the home table every day in the year" should be the motto and the aim of every Florida horticulturist.

Have you provided for your fertilizer needs for the coming season? If not, a liberal policy should guide your purchases.

Now is the time to make preparations to wage a relentless warfare on the white-fly and other citrus pests.

Have you overhauled your machinery in preparation for early spring operations in the grove?

Japanese oranges on the Pacific Coast constitute a new and literal "Yellow Peril."

Bordeaux Oil Emulsion Spray

By J. R. Winston and W. W. Yothers,
U. S. Department of Agriculture, --
Orlando, Florida, at Meeting
of Florida State Horticultural Society

Bordeaux mixture, one of the standard spray compounds, is generally conceded to be the most effective all-round sprays that has been devised for the control of plant diseases. Co-existing with its desirable qualities there are several undesirable features and for this reason numerous substitute materials have been exploited or otherwise introduced from time to time.

The experienced fruit growers of Florida are too well acquainted with the various sprays to need a discussion of the several types, especially their limitation, but for those who have taken up citrus growing more recently a few words of explanation may be justified.

In general, the copper sprays, such as Bordeaux, Burgundy, and ammoniacal copper carbonate mixtures possess fungicidal properties of considerable potency which kill beneficial fungi or those which cause insect diseases as well as those causing plant diseases. They possess no material insecticidal values, consequently scale insects increase rapidly after such sprays are applied, unless proper insecticides are used following these applications. This is especially true where Bordeaux mixture is used for this material is effective over a considerable length of time.

Sulphur sprays, for example, lime-sulphur, soda-sulphur, and barium-sulphur solutions, possess both fungicidal and insecticidal properties to a fair degree. They are both much less effective against fungi in general than copper sprays. The reaction of the sulphur compounds on fungi is milder than copper sprays and operate over a much shorter length of time. On the other hand, these sulphur compounds kill young scale insects and therefore these pests do not increase very rapidly following the application of such sprays.

Because of the very serious scale infestation which is almost sure to follow applications of copper sprays, most fruit growers select the sulphur compounds as a means of controlling citrus diseases. However, conditions for severe infection frequently arise which warrant the use of Bordeaux mixture. Heretofore, when such was the case, several additional applica-

tions of oil emulsion were necessary in order to reduce the scale infestation to a normal level, thereby adding no small amount to the annual cost of spray materials and their application. Aside from the scale and white fly increase, rust mites are known to become abundant and the injury resulting from them more pronounced following applications of Bordeaux mixture than is the case where no sprays are used.

With this information at hand it was deemed advisable to determine whether or not Bordeaux mixture could be combined successfully with the present day oil emulsions and applied without injury on citrus trees and fruits at various stages of growth. Accordingly, a series of laboratory tests were commenced during the early fall of 1917 with the view of combining these two sprays. It was found that any dilution of the various oil emulsions combined readily with any strength of Bordeaux likely to be used and showed no detrimental effects upon either the Bordeaux mixture or oil emulsion. The first field test of this combination spray was made during the late fall of 1917 on a large bearing citrus grove near Orlando, Florida.

The Bordeaux mixture was prepared in the usual manner, using three pounds of bluestone and four pounds of lime for each fifty gallons, and the oil emulsion was added afterwards to the spray solution with the agitator running. Both "cold stirred" (1) and "boiled" (1) emulsions were used, each in quantities that would give one-half per cent and one per cent of oil in the diluted material. Three applications were made at intervals of two weeks.

(1) Farmers' Bulletin 933, U. S. Department of Agriculture, Washington, D. C. "Spraying for the Control of Insects and Mites Attacking Citrus Trees in Florida."

During the scab spraying seasons of 1918 and 1919 this combination spray was given rather thorough trials in bearing groves at various points in the State. During the execution of this work trees were sprayed at all stages of growth; on the tender flush, in the bloom and at intervals thereafter, but no one grove was sprayed more than three times with this Bordeaux-oil emulsion combination. Both the "cold stirred" and "boiled" emulsions were used in these tests.

In addition to these a more critical test was made in the experimental nursery at Orlando on seedling grape-

fruit, rough lemon, and sour orange nursery stock. A part of this nursery was sprayed with 3-4-50 Bordeaux mixture and another part with Bordeaux oil emulsion (3-4-50 Bordeaux plus one-half per cent oil emulsion.) The applications were made at weekly intervals beginning in March and ending in October, 1919. Usually the ordinary "boiled" emulsion was used, but occasionally the proprietary emulsions, such as "Schnarr's Spray Formula" and "Fico 60" were substituted. All of these emulsions served equally well.

Again in 1920 extensive experiments to prevent citrus scab were carried on in several sections of the State. Tests were conducted on both nursery trees and bearing groves. At Orlando a nursery consisting of sour orange, rough lemon, and grapefruit seedlings was sprayed twice a month from April until October with various strengths of Bordeaux combined with emulsion at the rate of one-half per cent oil in the diluted material. The sulphur sprays, such as Dry Lime Sulphur, Barium Tetra Sulphide, and Lime Sulphur Solution, used on the basis of equal amounts of sulphur in the diluted spray, were used along with the Bordeaux for comparison. Bearing trees were sprayed with 3-3-50 Bordeaux and one half per cent oil emulsion at intervals of one, two and four weeks during the scab and melanose season. Both deep well and lake water were used in the spraying. At Orlando and vicinity extensive experiments were carried on for the prevention of melanose and stem-end rot.

While this work was in progress certain rather interesting and important observations were made which may be summarized as follows:

All brands of commercial oil emulsions and miscible oils tested by us, and the government formulae "cold stirred" and "boiled" emulsions were found to combine readily with Bordeaux mixture.

Bordeaux-oil emulsion settled less rapidly and spread more evenly than plain Bordeaux.

Bordeaux-oil emulsion adhered to the sprayed parts as well or better than plain Bordeaux. (2)

(2) Department Bulletin 785, U. S. Department of Agriculture, Washington, D. C. "The Field Testing of Copper-Spray Coatings."

This combination was successfully made with shallow well and lake waters and with various types of untreated deep well waters except on two

properties where slight injuries to tender foliage followed the failure to secure a perfect mixture. Even plain Bordeaux gave injurious results on these properties. These failures were undoubtedly due to unusual chemicals in the water.

The presence of the oil neither increased nor decreased the effectiveness of Bordeaux against citrus scab. This combination spray was very effective against melanose and indications are that it can be used with success against stem-end rot.

The presence of the Bordeaux neither increased nor decreased the effectiveness of the oil against the various species of white flies and scale insects present.

The critical time for the application of the plain oil emulsion following the combination is during the last week in June when the second generation of purple scale have just hatched and are therefore more easily killed.

More than 50,000 gallons of this combination have been applied on fruit, twigs, and foliage of all commercial varieties, at all stages of growth, including the full bloom period, during all weather conditions which permit of spraying operations, and no spray injury was observed on trees receiving the normal number of applications except as noted above. Where the bloom spray was applied, oil emulsion was used at the rate of one-half per cent oil in diluted spray. At all other times the emulsion was used at the rate of one per cent oil in the spray which is the regular strength for scales and white flies. It thus appears that oil emulsion combined with Bordeaux mixture has less tendency to injure tender growth than oil emulsion alone.

Rust mites became much more abundant on trees sprayed with Bordeaux than on unsprayed trees. There was no appreciable difference in the number of rust mites following applications of Bordeaux and following applications of Bordeaux-oil emulsion. However, the maximum infestation was reached from two to three weeks earlier than on unsprayed trees.

Scale insects became very abundant and did considerable damage following applications of plain Bordeaux. They became less abundant and did far less damage where the Bordeaux is combined with oil emulsion at the rate of one-half per cent, or one-half the strength usually used against scale insects and white fly. Where Bordeaux was combined with one per cent oil emulsion, followed by a straight oil emulsion spray, scale insects did not increase more rapidly

than on unsprayed trees, but became somewhat more numerous than where lime-sulphur was used, at the usual dilutions for controlling fungus diseases.

Bordeaux-oil emulsion spray should never be expected to take the place of the oil emulsion spraying for white fly and scale during May and June and should always be followed by at least a single application of the latter.

Most of the commercial Bordeaux pastes and powders will give satisfactory results if used according to their copper content basis, and can be mixed with the various oil emulsions. Some of them, however, will not mix with the oil emulsion without being treated. This objection can be overcome by the addition of a small amount of lime after the Bordeaux has been dissolved and put in the spray tank. Severe injury has been reported following the use of a commercial substitute for Bordeaux-oil emulsion. On investigation it was found that the article was in no sense a Bordeaux-oil emulsion combination and should never have been used as such.

The results to date of tests with the Bordeaux-oil emulsion mixture have been highly satisfactory and indicate that it will prove very effective in the control of certain fungus diseases of citrus and that its use is not followed by injury to the trees or fruit or by abnormal increase of scale insects such as follows plain Bordeaux. While it may be too soon to make definite recommendations of it for extensive grove treatments, it seems proper at this time to inform growers on the subject and suggest the desirability of their trying it out in a limited way in this season's spraying. Since plain Bordeaux must be followed by an application of oil emulsion and since the combination of Bordeaux and oil emulsion is equally effective as when these sprays are applied separately, there is no apparent reason why they should not be applied in combination, thereby reducing the cost of spraying operations. To this end the writers will be glad to give through correspondence any further details that may be required by any individual.

FINE EXHIBITION OF CITRUS FRUITS

An exceedingly interesting event of Friday afternoon was an exhibit of the various varieties of citrus fruits grown in Florida, accompanied with an instructive description of each, its habits, derivation and uses, at the office of Mattocks & Wheeler, this

city. A splendid attendance of interested citizens of the city and county and northern visitors was present and gave their undivided attention to the interesting lecture of Mr. Mattocks, who started his talk by showing the audience the parent of all citrus fruits, the wild kumquat, which grows in the mountains of Hong Kong, China. From this he traced the origin of the forty-six varieties of citrus fruits on exhibition. Some of these were rare and for the use of which we are indebted to F. W. Savage, who is in charge of the government experiment station in this city.

The various crosses that had taken place among the fruits were very interesting. The methods of obtaining these crosses and perpetuating them was thoroughly and minutely explained in plain language so the layman could understand them. Several reversions to type, or development downward, were shown and this compared with the same tendency in animals.

The newly propagated Eustis limequat was shown and explained. It was indeed interesting to see how some fruits had retained certain characteristics of one parent, while others showed a decided inclination towards the other. For instance, the Foster grapefruit is the only one that has retained the pink color given it from its parent, the shaddock. The Thornton orange, which is a cross between the common round orange and the grapefruit, tends to retain the characteristics of the orange, while the tangelo developed from the same parent leans decidedly toward the grapefruit.

In addition to the citrus fruits there were on exhibition bananas, pineapples, sisal hemp and various other valuable commercial products grown in Lake county. The bananas were furnished by C. L. Stokley, from his grove at Mt. Dora, a fruit that cannot be excelled for deliciousness of flavor. Mr. J. F. Gulliver furnished some very fine specimens of Shaddock and Thornton oranges for the occasion. Mr. J. L. Moore had some especially fine navel oranges. Mr. J. P. Donnelly, Mount Dora, the new sensational Thanksgiving orange, and fine specimens of rough lemons and tangelos. Mr. Javens, of Mt. Dora, specimens of bitter sweet oranges, and Mr. Butts, of Mt. Dora, some handsome specimens of tangerines.

The display of fruit in the office of Mattocks & Wheeler will be a permanent feature and lectures will be given by Mr. Mattocks every other Friday afternoon during the winter season—Eustis Lake Region.

Suggestions for Increasing the Consumption of Citrus fruits

C. D. Kime, Orlando

It is human nature for us to seize upon a mole-hill, if you will pardon the abuse of the simile, and declare it the "mountain" that bars our path to success and higher prices. But calmer consideration makes us see that it is the multiplicity of "mole-hills" in our way that causes the trouble. One we can label exorbitant freight rates, another production costs, another cost of raw materials and supplies, and yet another lack of advertising to create a demand for our product. All of them are important, all of them big problems but none of them are the insurmountable obstacle we are prone to think them to be.

Florida is no longer a collection of individuals; it is a unity, a State. We are big enough to attack our problems together. And what is more to the point we are so big in this year of 1921 that with the co-operation of the available agencies, there is not one of our problems that cannot be solved. Let us forget, for a few moments, ourselves, the individual, and think in terms of Florida the State. Let us attack our problems according to the old fable of the wagoner. This man was driving a very heavy load along a muddy way. At last he came to a part of the road so deep in mud his wagon mired to the hubs. Every pull of the horses sank it deeper and deeper. So the wagoner threw down his whip and knelt and prayed to "Hercules, the Strong," "O, Hercules, help me in this, my hour of distress." But Hercules appeared to him and said: "Tut, tut, man, don't sprawl there. Get up, put your shoulder to the wheel."

Self help often comes along unexpected channels. I beg leave to submit for your approval and action the following proposition.

Florida Orange Week

Let us have a real, big, full sized orange week, for the State of Florida.

Let us usher in this week with a proclamation declaring the first annual "orange week" for the State of Florida, said proclamation to be duly signed and sealed by our Governor. Have this proclamation backed up by similar manifestoes from the mayors of all towns within the State. Then let us secure the active co-operation of Chambers of Commerce, commercial bodies, newspapers, Rotarians, busi-

ness houses, both local and Statewide, county commissioners, the Florida Citrus Exchange, fruit shipping companies, independent growers and shippers, hotel men, drug stores and soft drink dispensaries, Women's Clubs, schools, railroad development departments, and last but not least, and most important of all, the hearty support of every Floridian. A true Floridian is always with us on any proposition for the good of the State.

Object of Orange Week

First to increase our knowledge concerning the use of citrus fruits at home.

Second, to increase the consumption of fruit and juice throughout the whole State during the shipping season.

How to Accomplish These Objects

These objects to be accomplished by publicity through the press; by placing of suitable colored advertising posters and designs in store windows, drug stores and fountains in restaurants, and on sign boards; by using orange designs on letter heads, and special stamps designed to advertise orange uses. These posters should all illustrate the uses of orange juice, orange receipts, and the healthfulness of the juice as a drink. Let each town have an orange festival, with an orange "float" parade, orange week dances, orange week dinners by various organizations and in the private home use the fruit daily.

As the movement grows, and it is bound to grow, let us plan for an orange show week, and usher in the "king of fruits, with a pageant, making "orange week," a real event of each year.

Results That Can Be Accomplished

Let us forecast for a moment what we may expect in the way of results from our efforts. During the winter our northern friends visit with us to enjoy our climate. The population of the larger towns of the State will show an increase of from five to forty thousand. It is not too much to say that for three months out of the year we have an increase of population in Florida of 100,000 people. In the land where fruit is produced by the millions of boxes each season, these potential consumers are actually denied the privilege of drinking orange juice. Good ripe fruit is secured with difficulty. Culls and drops are common. Here where fruit is plentiful these potential advertisers are neglected or are

overcharged for a poor quality product.

At our drug stores and soda fountains the fresh juice is rarely to be had. We are neglecting an active demand amounting to thousands of boxes annually that is already at hand. We are neglecting the development of a greater demand among the thousands that through habit or lack of interest are now drinking the poorer syrup and acid concoctions that have literally taken our market by storm.

We are not alone in this position, as from the pages of the "California Citrograph", we learn that the Fruit Growers Exchange of that State is adopting the "See-It-Made" plan. They have installed electric juice extractors in their experimental stands and instead of selling orange and lemon juice from large glass coolers the new way is to extract the juice from each orange in full view of the customer after he has ordered.

This "See-It-Made" way of serving pure fresh juice is the method they are urging for eastern fountains this year. The work is in charge of a Fresh Fruits Drink Department. It takes by this method only eleven seconds to prepare the fresh drink, brimful of ice and sweetened with pure sugar. The price has been raised from five to ten cents and the size of the glass increased from six to ten ounces. Their reports indicate that business under the new method will be both popular and profitable.

That they are alive to the gravity of the situation in this western State, the following editorial from the California Citrograph will show.

"Orange drinks have appeared by the hundreds since prohibition. Either the public has developed a tremendous thirst for orange colored concoctions or the bottlers think they have. Unfortunately many of the preparations contain no orange juice and are lacking in organic salts and acids and the vitamins which give the great health value to citrus fruits. In most instances they are made of sweetened carbonated water, flavored with oil extracts from orange peel, artificially colored and combined with a base to citric acid. It has recently come to the attention of the Bureau of Chemistry that in some instances mothers, misled by the labels, are feeding these 'fake' orange drinks to infants under the impression they were giving orange juice as recommended by phy-

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sicians. "The best way," says the Literary Digest, "is to buy the fruit and squeeze out the juice."

In California the employees, salesmen and growers are urged to order orangeade or lemonade and insist on getting a drink from the fresh fruit. For if you will allow another quotation: "It does not take a majority to establish a preference. Any merchant knows that only a few of his customers specify brands. The others don't specify anything. So he carries the goods preferred by the discriminating few with the assurance that these goods will satisfy the less particular."

The very life of our industry in Florida depends on increased consumption of fruit at a profitable price. Demanding limeades and orangeades is a sure way to increase fruit consumption enormously in our own State.

The California product is advertised tremendously. Every point is stressed and dwelt upon. Its defects are declared to be virtues. Even the thick skin is held up to the buying public as a virtue. Why? Because it will easily peel. California does not hesitate to advertise "Sunkist" orange juice. They push it not only throughout the East but also at home. Yet we all know that the Florida product is without a rival in the quantity and flavor of the juice it contains. The Florida orange is literally bursting with the delicious fluid, so full indeed, that it cannot be cut without overflowing. Drinking the juice is a privilege, an aid to health for the invalid, a tonic for the weak, and a pleasure and delight for the robust and healthy.

In order to forecast more accurately the results of an "orange week" representative soft drink dispensers were visited in person from Tampa to Daytona down the East Coast. A list of questions were prepared to which the following is a summary of the answers.

Average price necessary for the pure juice drink in large glasses will be eleven cents with war tax included.

With the exception of those stores having a rush period it is better to extract the juice separately for each order in sight of the consumer.

With two exceptions (one at Tampa and another at Mt. Dora), no attempt has been made to advertise pure juice drinks on an extensive scale. These two stores have had wonderful results.

The demand for so-called orange drinks has been great or small in proportion to the attempt made to push the pure juice. In other words, where the pure drink has been pushed, the

demand for artificially prepared stuff has materially lessened and disappeared entirely.

The motor-driven juice extractors have proven very satisfactory in those stands where the rush hour is not heavy and yet of sufficient volume to create a need for a faster method than the glass hand press. The glass hand press has been satisfactory in small towns having good trades but no rush hours of any volume.

In those stands having heavy rush hours, the electric driven extractor seems to be too slow. These places need a reserve supply of juice from which to draw. In the larger towns a delivery service of the fresh juice to such stands may be advisable, though the California result of eleven seconds per glass certainly deserves consideration.

One stand from Tampa reports that they have had wonderful success with the motor-driven extractor, paying for their machine in less than a month of actual use. Their price for an exceptionally well prepared product is fifteen cents.

While many of the men feel that forty to fifty dollars is too high a price for a machine for juice-extracting purposes, not a one was found who was not deeply interested in the juice business and who was not heartily in favor of pushing increased consumption campaigns.

Sources of fruit supply varied according to locality. This means that in larger towns fluctuations in price are to be expected, depending on distance from packing houses, available groves, etc. One man with a nearby sources of supply estimated total cost of drink including overhead, at four and one half cents per glass.

The method of squeezing juice out in advance and holding same in large glass containers has been tried repeatedly and invariably brought poor results and failure of the attempt in the end.

With the exceptions mentioned above the only attempt to advertise orange drinks have been by local editorials in the press and by the Florida Citrus Exchange. There is no question that these attempts, small as they have been, have brought results.

With one store in a small town, estimating a box and a half daily average for a four-months season, a very conservative estimate will give us a total consumption throughout South Florida of close to 400 cars of fruit, in drinks alone, to say nothing of the advertising value of such work and the additional fruit that will be sold to tourists for home consumption.

Seventeen

FATHER OF FLORIDA'S CITRUS INDUSTRY DIES

James A. Harris of Girardville, Pa., known as the "father" of the orange industry in this state died at Crystal River, Dec. 30. Mr. Harris, who was about 74 years old, is generally credited with having introduced Florida grapefruit in northern markets. He leaves his wife, and a son, James A. Harris, Jr., of Cleveland.

Mr. Harris was born at Yalaha, on Lake Harris, May 5, 1847. He was long a resident of Ocala and Citra, owning the famous Harris grove, where palatable oranges were first produced in the state. His property holdings also included for many years the Ocala House and Montezuma hotel.

FRUIT AND VEGETABLE YIELDS DOUBLED AND MORE

Reports have been received of fruit and vegetable crops that have been doubled and more, by the proper use of nitrate of soda.

Nitrate of Soda is a most important and valuable fertilizer, because it is the one supplying at once the proper amount of immediately available nitrogen on which crops depend.

Some forms of nitrogen are so low in action that if applied this year, the benefit will only be received by crops grown next year or the year after that.

Be sure to use fertilizer that will give results on this year's crop. That's what nitrate of soda does. It also helps to correct soil acidity.

One grower reports that where other fertilizer was used, a crop resulted which brought \$337.50 per acre and where nitrate of soda was used on the same crop it brought \$975.00 per acre.

Use nitrate of soda at the rate of 200 pounds to the acre and cultivate it in on all cultivated crops, fruits or vegetables.

Valuable works by William S. Myers, director, on the use of fertilizers can be had free, by writing Dr. Myers at 25 Madison avenue, New York. These include works on citrus fruits, tobacco, sugar cane, cotton, the use of nitrate of soda, etc. (Adv.)

Whenever the farm bureau is functioning, farmers are buying and selling at greater savings and profits than are other farmers.

When the South puts as much into hog raising as it has into cotton growing, this part of the country will lead in hogs as it has led in cotton.

Avocados in Polk County

(By L. D. Niles)

The Avocado is undoubtedly the most promising fruit among those bidding for popular favor at the present time; it has overcome much skepticism and now appears in varieties that can be grown throughout most of the citrus section.

It is difficult at present to define the exact climatic and soil conditions most favorable to the Avocado tree, as the different races vary in their adaptability under local conditions.

Taking Polk County for our illustration, it has been demonstrated that as a commercial proposition, the West Indian race which comes from the moist low-lands and sea coasts of tropical America is much more susceptible to frosts than either the Guatemalan, which comes from the highlands of southern Mexico and Guatemala, or the quite hardy Mexican from the table lands of central and northern Mexico.

It is true, however, that there are quite a number of old, large West Indian seedling trees in Polk County, some of which were injured only in 1895. There are two at Frostproof, and others near Winter Haven. One seedling in Polk County measures 12 feet in circumference at 12 inches from the ground and is well over 40 feet in height. All must admit that this is quite a sizeable tree. I estimate the tree to be 40 feet in height.

On March 26, 1921, the tree was nearly through blooming and the indications were for a very light crop; in fact it has always been a shy bearer. While this undoubtedly proves that the West Indian will grow in this section we are satisfied the race is too tender for a commercial planting. However, when one takes into consideration the rapidity with which they renew their fruiting wood, it shows that if one takes the precaution to bank above the bud, even the tender varieties are practical for home orchard planting as they can renew their top and fruit again in two or three years.

Pollock and Trapp trees in the planting at Lucerne Park are fully as large today as before the cold of 1917, and some of them matured fruit last year; proving that they recuperate very quickly from cold injury. As the fruit is excellent and budded trees bear at an early age, a few of this race should by all means be planted near the house for home use.

To illustrate the precocity of the

Trapp variety, the following is a summary of tree performance records of some trees at Lucerne Park. This block of Trapps was planted in April, 1912, and this summary shows the average yield per tree per year. In the year 1914 the average number of fruits per tree was 1.30; in 1915. 6.70; in 1916, 34.33. These trees while injured in February, 1917, fruited again in 1920.

Concerning varieties, would say that after our experience with the West Indian race in 1917, as stated, we secured budwood of the best available varieties of the Guatemalan and Mexican races (including the Guatemalans introduced by Mr. Wilson Popehoe), with which we worked over most of our older Trapp and Pollock trees. We later planted a new test plat budded on three different stocks, giving us a total of over forty different varieties in our groves. Of these some ten varieties fruited in 1920 and thirty-six are holding fruit at present. Some of the results noticed in this test planting which as stated includes trees budded on three different stocks—west Indian, Guatemalan and Mexican, are very interesting; and in the course of a few years should be of value in determining the variety and stock best suited for this section.

I wish to emphasize the fact that some of the Mexican race, including seedlings, while not of commercial value, are most excellent for home use. ripening in summer and early fall, and being quite hardy, they are of great economic value.

This reminds me, everyone thinks of the Avocado as a salad fruit, but really, have you every eaten an Avocado pie? Take a good Mexican fruit or fruits, according to the size pie you like, and tell the cook to make it like pumpkin or sweet potato pie. The combination is guaranteed to make an Avocado enthusiast.

Speaking of some of the odd results noticed with these varieties, I would like to tell you the history of one of our trees. During March, 1917, a Pollock tree (injured in February) sent up two sprouts from the root stock. During April I budded one sprout with Taft and the other with Fuerte buds. They both lived and looked so promising that the Pollock wood was removed. Both buds made good growth and are now some sixteen feet in height. While both buds are on the same root system, each year the Fuerte has blossomed during January, while the Taft, on same root,

has never started new growth until in March. Another point of interest is that the Fuerte bud matured fruit in 1919 and in 1920 and has a fair crop set this spring, while the Taft bud has not bloomed to date.

Regarding the hardiness of the different races and varieties, would say that we have both Mexican and Guatemalan varieties which withstood the cool spell of 1917, and are fruiting and growing very well today. Consequently exact data as to hardiness had best be left for a future report. At present there appears to be a marked difference in the first start of new growth and in blooming periods. This may be an important point to be taken into consideration later in connection with quality, quantity and favorable ripening season. The hardiness and vigor of the tree will be the important factors in choosing our most valuable varieties.

As previously stated, there are several stock experiments being conducted in this section which are showing some interesting phases. Personally, I believe the West Indian is one of the best and most vigorous growers on land which is suited to rough lemon stock. By banking above the bud it is undoubtedly sufficiently hardy. We have found a few instances where Guatemalan buds on this stock seem to make an imperfect union; proving a point long suspected, namely, that we have still many things to learn concerning stock behavior.

So far the Mexican stock does not appear suited to this section, because as a rule the bud makes slow growth. Some may think there is contradiction in this statement as many Mexican seedlings here are very vigorous growers and bear heavily. It is, however, a well known horticultural fact that seedling trees, under favorable conditions, will usually make a strong growth. But this is by no means proof that buds from an apparently vigorous seedling will make satisfactory trees when propagated.

In addition to the plantings referred to there are a number of commercial size in this section, perhaps the largest acreages being owned by Mr. M. E. Gillett at Eloise, Mr. Mackay at Lake Alfred, Mr. W. D. Carrier at Crooked Lake, and others, totaling perhaps 100 acres.

In cultivation, one of two methods should be followed. Either keep a dust mulch from the day the tree is planted which will force a deeper root system; or use a mulch of organic

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Nineteen

matter such as leaves, compost, etc. This will bring feeding roots to the surface, and the danger is that, in a dry spell, unless mulch is very heavy, trees will soon show bad effects from lack of moisture. However, in well drained land, for the first two years after planting, an Avocado tree should have water in anticipation of its wants.

In propagating it would perhaps show wisdom to engage some one who has demonstrated his ability along this line (but perhaps you desire to do this part your self), very well. Make sure your stock is in thrifty, vigorous condition; do not allow the stock to become too large and the bark to harden before budding, as under such conditions failure is almost certain. With the stock in proper shape, select budwood from the last growth (varieties differ, but usually best results are obtained from fairly mature wood), just before it is ready to start a new growth.

The actual manual performance of budding should be similar to shield budding of the citrus, either in form of a T or an inverted T. Personally I use the T, believing it will form a union nearer the ground. The bud being carefully placed in position, should be at once tightly wrapped with a strip of waxed cloth, covering the entire bud except the eye. Be sure and fasten the end of the cloth, as it is necessary to keep the bud wrapped for a longer length of time than with citrus. After wrapping, judgment must be used to determine whether the stock plant needs the

growth slightly checked by cutting away, say two or three leaves near the top of plant. This depends somewhat on whether propagation is in the open or under half shade.

Two weeks after the buds are inserted, depending somewhat on weather conditions, look them over carefully and if the bud is alive, cut off three or four inches of the tip of stock. In another ten days if found alive, judgment must be used in removing axillary buds from the stock, or perhaps taking out a half inch section of bark from the stock about one inch directly above the bud. This will usually force the bud into growth, at which time the waxed cloth must be loosened above the eye of bud; but do not fully remove the eye of bud; but do not fully remove budding cloth until growth is well started. A point to remember is, if stock growth is checked too heavily, the eye is almost sure to fall from the bud and all your labor is lost. After the bud has made its first growth and the wood is maturing, the stock should be cut back further, tying bud to stem of seedling and removing sprouts, thus forcing all growth to the bud. While dormant during the following winter, stake the bud and remove the seedling stub, covering the cut surface with grafting wax.

In conclusion would suggest that everyone in the citrus section should plant Avocado trees of each of the three races for home use at least; someone sometime will thank you for doing so.

WHEN TO PRUNE CITRUS TREES

When is the best time to prune citrus trees? This question is repeatedly asked by growers, especially beginners. County Agent E. F. DeBusk of Lake County advises that it be done when needed.

In order to get sufficient pruning done reliable help is necessary: If the laborers are unskilled, there is danger of the over-pruning. When minimum damage to fruit will result and there is least danger of transmitting disease, then is probably the best time to prune.

Many growers advise winter and summer as the best times for pruning, and they are probably correct. Citrus trees are more nearly dormant during these seasons. But many growers advise against the winter season because much damage is done the fruit. If the pruning is done late in the winter, much bloom wood is removed.

If melanose or withertip are present and if any pruning is done during the summer dormant period, it should be done carefully so as to avoid the spread of these diseases. Spores of melanose and withertip are most abundant during the warm, moist season and are at this time most vigorous in spreading and developing new infections.

Do not let dead branches come in contact with living ones in pruning and other work. Keep in mind that a dead branch is usually a hot-bed of disease. Pruning implements should be disinfected often, especially in going from one tree to another.

Judge Edwards Denies Injunction Against Rex McDill

Judge John S. Edwards, sitting in chambers at Lakeland, Florida, on Friday, January 13, handed down his decision in the injunction proceedings brought some weeks ago by Brogden, Ricketts & Haworth Co., of Winter Haven, in which the latter company sought to restrain Mr. McDill from the manufacture and application of a process for coating citrus fruits, known to the trade as Korex.

The claim was set up in the petition that the process being manufactured and applied by Mr. McDill and his associates was an infringement of the rights held by the Brogden, Ricketts & Haworth Co., and the court was asked to issue a temporary injunction and restraining order against Rex McDill and the Rex McDill Company,

a corporation.

Hearing was held in chambers at Lakeland and the testimony of a number of witnesses was heard. At the close of the hearing, Judge Edwards announced that he would take the matter under advisement. His decision and decree was issued under date of Friday, January 13, in which the motion for the temporary injunction was denied.

As a result of this decision by Judge Edwards, Mr. McDill is left free to continue the manufacture, sale and use of his process.

Mr. McDill is now in Washington, D. C. and Mr. Brogden in Los Angeles, Cal., and it is impossible to learn what further action, if any may be taken in the matter.

PRAISE GRAPE FRUIT JUICE

Walter Reed General Hospital
Washington, D. C., Dec. 9th. 1921
Florida Grapefruit Juice Co., Inc.,
Bradentown, Florida.

Gentlemen:

Yours of December 6th, just to hand and I hasten to send my unqualified praise of your grapefruit juice. It has been used throughout the hospital with splendid results and is liked by the patients. It is especially useful in cases of fever and where patients must be kept on a liquid diet for a long time. I have combined it with white of an egg and a little sugar and crushed ice and made a delightful drink for very ill patients.

With all good wishes for your success, I am,

Yours very truly,
Lizzie G. Thurman,
Dietician.

Sub-Tropical Mid-Winter fair

For thirteen years the Sub-Tropical Mid-Winter Fair at Orlando has held a prominent place among the expositions of the state, and in citrus circles has been known as one of the very first in point of quantity, variety and excellence of the exhibits displayed.

The fair to be held this year on February 14 to 18 inclusive, is expected to not only maintain the past record of achievement, but to outdo all former efforts in the magnitude and attractiveness of exhibits.

The Sub-Tropical Mid-Winter Fair is by no means a local institution. It is not confined to the city of Orlando nor to its immediate trade territory; it is not an exclusively Orange County Fair. It is much broader in scope, being really a district fair embracing many of the best citrus and agricultural counties of the state, and the exhibits cover a wide range of agricultural and horticultural activities,

ant producer of citrus fruits.

In addition to its general county display, Orange county will have six community exhibits from Windermere, Gotha, Pinecastle, Conway, Fairview and Orlando. These communities will compete for three special community prizes offered by the fair association.

Five Orange county towns also will be represented by special exhibits for which special prizes are offered. These towns are Apopka, Winter Park, Winter Garden, Ocoee and Oakland.

Live Stock Displays

In the live stock department there will be fine exhibits of hogs and cattle from the state at large and from each of the counties named above. Reservations already made give assurance that this feature of the fair will be the best ever seen here and one of the best live stock displays ever brought together in the state. Lake, Osceola, and Marion counties will each have

the rules of the American Poultry Association will govern, and entries are open to all. Special awards have been arranged for all classes of poultry, and prize winners from the best pens in the state and from outside states will be seen in this department.

Pigeons also will come in for a prominent place in this department, and many fine birds have been entered in the various classes.

Special prizes also are being offered for rabbits and hares, as well as for rare birds of all kinds and all household pets.

Machinery Department

Large exhibits of machinery of all kinds, particularly of machinery used in grove and farm work, will be seen. Trucks and tractors, sprayers, plows, harrows and discs, grove and garden heaters, picking bags, pumps and engines of all kinds will be shown in great numbers and practical demonstrations of these machines and appliances in actual operation will be given.

Miscellaneous Exhibits

There will be also fine exhibits in the departments of automobiles, art, domestic, needlework, manufactured products, etc. Present indications point to a much wider range of display in these departments than has ever before been shown at this fair.

In the racing department, a varied and intensely interesting program is assured. Already sixty horses which have been entered for the races are in training, several of them being G. and Circuit racers with records of exceptional speed. Still other entries in this department will be made before the opening date of the Fair.

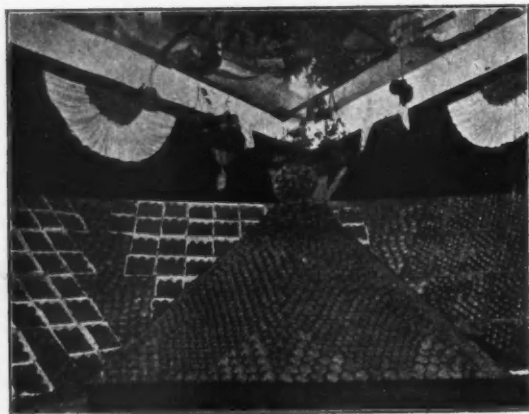
There will be numerous free attractions, acrobatics, etc., while the "Midway" will include the world-famed Johnny Jones Shows, the greatest attraction of its kind in the world.

The active management of the fair this year, as in recent years, is in the hands of Secretary C. E. Howard, than whom there is no better fair manager in the land—nor greater booster for Florida's natural resources.

The officers of the fair include: W. R. O'Neal, president; H. H. Dickson, vice-president; C. E. Howard, secretary; Jas. L. Giles, treasurer.

Executive Board: W. R. O'Neal, J. L. Giles, W. H. Reynolds, H. H. Dickson, N. P. Yowell C. E. Howard.

Directors: W. R. O'Neal, J. L. Giles, E. H. Walker, H. H. Dickson, H. L. Beeman, Seth Woodruff, W. H. Rey-



A Typical Group Exhibit

as well as stock raising, manufactures, art, domestic science and educational subjects.

This year six counties will be represented—Orange, Seminole, Volusia, Osceola, Lake and Marion. Several of these counties are noted for the quantity and quality of the citrus fruits produced, being in the very heart of the Florida citrus belt, and all of them are great producers of truck and general agricultural crops. Seminole county is known as the center of celery and trucking activities for that section of the state.

Marion county, which will be represented for the first time at this fair, is one of the greatest general agricultural and stock producing counties of the state, and is besides an import-

especially fine exhibits of live stock, while fine hogs and cattle have been entered from all sections of the state. The prizes offered in this department are very liberal and are highly prized by the owners of fine stock.

Horses, sheep, dogs and cats also will be given a place in the exhibition pens and liberal prizes are offered in each of these departments. Entries already booked give assurance that these departments will be well filled and that some exceptionally fine animals will be seen this year.

Best Poultry Show

The poultry exhibits have always been an interesting feature of the Sub-Tropical Mid-Winter Fair, and these exhibits this year promise to outdo all former displays. In this department,

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nolds, David Lockhart, M. O. Overstreet, N. P. Yowell.

The prominence and ability of these men, who in years past have made the Sub-Tropical Mid-Winter Fair the great success it has been, coupled with their progressive spirit and great activity along constructive lines, gives assurance that they will attain their efforts to make the 1922 Fair the best in the history of the organization.

In issuing their preliminary statement and an outline of their plans for the coming fair, the directors say:

"It is with great satisfaction and pleasure the management of the Sub-Tropical Mid-Winter Fair submits for your examination and approval the premium list for this, our thirteenth annual Exhibition.

"It was very generally believed the last fair reached the top notch, and that it was the last word in fairs.

"But the aim of the directors is pitched high and they early determined to surpass even the success of the year past.

"And should the management prophesy the coming fair the greatest and best, viewed from any standpoint it would simply be stating an absolute certainty.

"But this carries with it, of course the assurance that the exhibitors and patrons of every sort are co-operating with the officers to achieve the success in sight.

"It will be observed that a new county exhibit has been added, (Marion County), and the other counties and group and individual exhibits will surpass all previous records.

"We depend on you for your share of the grand success."

The Judges appointed by the Sub-Tropical Mid-Winter Fair Association will report to the superintendents in charge of the departments in which they are to serve.

No person who is an exhibitor can act as judge in the department in which he exhibits, or upon stock or articles in which he has an interest.

When animals or articles are not deemed worthy, Judges will refuse to award premiums.

If there be any question as to the regularity of any entry or the right of any animal or article to compete in a given class, the Judge shall report the same to the superintendent in charge for adjustment.

Judges in the several departments, when requested, will give the reasons for their decisions, embracing the valuable and desirable qualities of the animals or articles to which the premiums are awarded.

Reports of awards are to be made to the superintendent in charge as nearly as possible after the adjudication, so that the Secretary can file same away for the payment of premiums and awards.

parent scale and hatch within a few hours. The newly hatched larvae are oval in outline and yellow in color. In about 45 days the second moult occurs and the male scales pupate and emerge as small winged insects. The females become full grown in about 20 days later and immediately begin depositing her eggs.

It takes a little over 2 months to complete the life cycle of this insect and there are at least six broods in one year.

The Purple Scale (*Lepidosophes Beckii*) and Long Scale (*Lepidosophes Gloverii*) are among the most serious pests attacking citrus trees. In appearance they are similar and the damage is alike in both species. These pests also attack a number of other trees, besides the citrus trees, in many instances causing death.

In color the Purple Scale is a brownish-purple. The scale covers the twigs and the trunks of both the young and old citrus trees and often appears in large numbers on the fruit and leaves.

The eggs are laid under the body of female. The young larvae emerges in about 10 days and after running around for a few hours it inserts its beak and becomes fixed on the plant and begins to emit wax, which forms a protective covering over its body. There are three and sometimes four broods of purple scale, during the year.

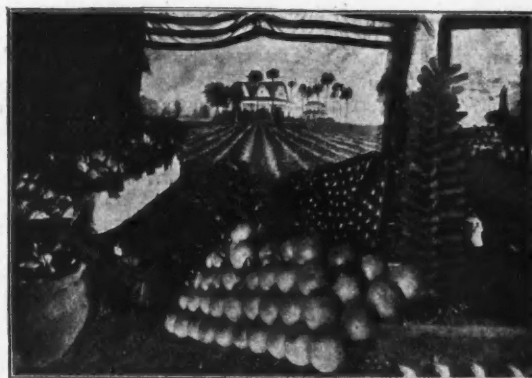
The first brood appears in March or April—the second in June or July—and the third in September or October. If the season is favorable, a fourth brood emerges in January or February.

It is best to spray just after a brood emerges, as they are easier to kill at this stage and only one thorough spraying is necessary.

Spray with oil emulsions which are used against the purple scale as well as the Long and Red Scales—because of the thick and heavy scale which fits the leaf or fruit very closely, the mature females and the eggs under the scales are not easily killed.

Two sprayings may be necessary, the second spraying should be applied from four to six weeks, after the first spraying. In this way it will give a chance to kill the females that were not killed in the first spraying time to mature and die, and their last eggs to hatch, and will not allow sufficient time for a new generation to mature.

Spray with oil emulsion 1 per cent plus dry soda sulphur 2 1-2 pounds in 100 gallons of water. The oil emulsion should be used so that the diluted spray material will contain 1 per cent of oil, if the emulsion contains 66 per cent of oil, 1 1-2 gallons will be required for 100 gallons of water.



An attractive corner in Horticultural hall

HOW THE RED-PURPLE AND LONG SCALES ACT ON CITRUS TREES

By Alvin Fox

The Red Scale (*Chrysomphalus Aonidium*) is not so widely distributed as the Purple Scale, but where it does occur a great deal more damage is done. It multiplies more rapidly, and is harder to control. At present the Red Scale is a serious pest in many locations throughout Southern Florida.

This scale infects all parts of the tree, leaves, branches and the fruit. It not only causes the leaves to become yellow and drop, but actually kills the young trees, and the large branches of old trees, the red scale "scars" the fruit and renders it unmarketable.

The red scale differs from many other varieties of scales being nearly circular in general outlines, in color it is a rich reddish-brown.

The eggs are deposited under the

Pineapple Culture in Florida

Under the above title, Farmers Bulletin No. 1237 United States Department of Agriculture, has just been issued. The bulletin was prepared by E. D. Vosbury, formerly scientific assistant, office of horticultural and pomological investigations, and J. R. Winston, pathologist, office of fruit disease investigations.

The purpose of this bulletin is to supply information which may result in bringing back the successful cultivation of pineapples in Florida and other sections in which its culture as a commercial pursuit has been largely abandoned.

Parties interested in the revival of pineapple culture should secure this bulletin, which gives most valuable information and points the way to renewed activity in this important subtropical industry. Write the U. S. Department of Agriculture, Washington, D. C., and ask for Farmer's Bulletin in No. 1237.

This bulletin discusses the history of pineapple growing in Florida, the usual methods of culture, the causes for the recent decline of the industry and the most promising methods for its restoration.

This once thriving industry has rapidly declined in recent years. Most of the fields have been abandoned and pineapple growing in Florida is now threatened with extinction. The chief causes are the depletion of soil humus and fertility through constant cultivation and exposure to the tropical sun, the growing prevalence of wilt due to attacks of nematodes, and failure to use healthy, vigorous slips in new plantings.

As a practical method of restoring abandoned fields, it is recommended that Natal grass be sown and allowed to grow on the impoverished soil for two years or longer. This practically starves out the nematodes, as Natal grass is immune, or nearly so, to them, and at the same time adds the essential humus to the soil. Carefully selected and vigorous slips should then be planted. Whenever pineapples begin to show a decrease in production the land should again be rotated to Natal grass.

By the use of the methods suggested, which are based upon experimental planting made by the Bureau of Plant Industry, it is believed that pineapple growing eventually can be re-established, not only in Florida, but in other sections where similar conditions exist.

The pineapple, universally considered one of the finest of all fruits, is

widely cultivated throughout the tropical regions of the world. Large quantities of the fresh fruit are annually imported into the United States from the West Indies (including Porto Rico), and from the Hawaiian Islands still larger shipments of the canned article are received.

A native of tropical South America, the pineapple is so easily injured by cold that its culture in the United States is restricted to the regions of southern Florida most nearly frost free. Small plantings have been started from time to time in California and in southeastern Texas, but these have been abandoned on account of adverse climatic or other conditions.

The earliest recorded successful planting of pineapples in Florida was made in 1860, when Benjamin Baker, of Key West, obtained a number of slips from Havana and started a small experimental patch on Plantation Key. The venture was so successful and the profits realized were so excellent that a rapid growth of the industry on the keys resulted. The shallow soils of the keys soon became exhausted, and most of the plantations there were abandoned. In the meanwhile the industry had spread to other parts of Florida where pineapple culture met with varying success. A number of plantings under sheds were made in Lake, Orange, Volusia, and other interior counties, but with few exceptions these were soon abandoned. By 1890 the industry had become centralized in the famous east-coast pineapple belt, extending from the vicinity of Fort Pierce southward to Miami.

In spite of occasional setbacks from freezes and other causes, the industry in the east-coast belt grew and prospered, and by 1910 there were more than 5,000 acres of pineapples in that section. For many miles along the Indian River the pineapple fields extended in an almost unbroken expanse, and the annual crop exceeded 1,000,000 crates. At about that time, however, serious crop shortages began to occur in some of the older plantings, where the plants commenced to show loss in vigor and decreasing yields. This decline became more and more prevalent, until by 1917 many of the fields had been permanently abandoned or neglected. A heavy freeze which swept over the state in February, 1917, and a second freeze in the fall of that year were final blows to many growers. In 1920 there were only a few hundred acres of bearing pineapples in Florida. But

few new plantings had been made since the freeze of 1917, owing to the scarcity of slips and to the belief of the growers that the suitable pineapple soils were exhausted.

Near Punta Gorda, on the western coast of the State, about 60 acres of pineapples were grown with shed protection in 1915. Fruit of choice quality was produced, and the industry there was considered quite promising. As on the east coast, however, these plantings have largely died out during the past few years, and in 1920 only 2 or 3 acres remained.

The failure of the pineapple industry of Florida is a particularly serious matter to the farmers of these localities, as much of the land on which this fruit has been grown is too light and sandy for the profitable production of other crops. The demand for reliable information regarding the profitable restoration of the abandoned fields is therefore urgent.

Selecting a General Locality

As pineapples are injured by temperatures lower than 30 degrees F., a locality for their culture should be selected which is practically free from severe freezes. Nearly all plantings in Florida have been made in the southern portion of the State. It should be understood, however, that though general climatic conditions become more tropical as one proceeds southward, latitude alone does not determine the danger from freezes. Damage from cold is often greater in southern localities than in latitudes farther north, and the topography and surroundings of a locality influence its liability to freezes and its suitability for tropical fruit culture. The effect of local climatic conditions are illustrated in the leading pineapple sections of Florida.

The earliest plantings were made on the costal islands, or keys, in the extreme southern part of the State, which are surrounded and protected by large bodies of salt water. The famous east-coast pineapple belt consists of a narrow ridge, an ancient sand dune, 1 to 3 miles wide and about 150 miles long, which is elevated some 25 to 50 feet above the surrounding country. It is bounded on the east by the waters of the Indian River and the Atlantic Ocean and on the west by marshes known locally as "savannahs". The elevation of this ridge above the surrounding country adds greatly to its freedom from frost, as the cold air drains to the lower levels. The large bodies of water on either side of the ridge also furnish further

protection from cold.

Selecting a Particular Site

After a favorable general locality has been decided on, consideration should be given to the selection of a desirable site within that region. The choice must be made with great care, as very frequently desirable and unsuitable sites are found in close proximity. Careful consideration should be given to the questions of local air drainage and water protection and their influence on potential damage from cold. The factor of roads should also be taken into account, as pineapples are injured by long hauls over rough roads, and, besides, such hauls are expensive. A field should be selected, therefore, as near as possible to a good shipping point. Among other points which should be considered in selecting a site are community advantages, an adequate supply of labor, and marketing facilities.

Many of the conditions for successful pineapple growing will be unfamiliar to growers who may have been successful with other fruits. The mistake of choosing an unsuitable site for a pineapple plantation, as in the case of other kinds of fruit growing, is likely to prove extremely costly and is usually without remedy. The newcomer, especially when his capital is limited, should proceed with great caution and purchase land only after thorough investigation and after consultation with successful growers.

AN EVERBEARING LEMON

Mr. Wm. Craven owns a farm of fifteen acres about one mile east of DeLand. He has a lemon tree that has been bearing fruit almost continuously for the past two years. It now contains a large quantity of fruit in all stages of growth, also a large supply of blossoms.

During the past year Mr. Craven picked forty-five dozen ripe lemons from this tree that he sold at very satisfactory prices, as they were of excellent quality.

The tree is in a very thrifty condition, showing no signs of exhaustion of vitality on account of continuous bearing. As Mr. Craven has been on this place for only a few years he is not able to say how long this tree has been bearing fruit without a rest.

It might not be a bad idea to put in several buds from this tree and thus raise additional trees to see if they are all ever-bearing or not.

Manure left under the eaves of the barn or out in the rain this winter will lose most of its fertility before spring comes.

A consolidation, or more properly speaking, an affiliation of two of the big citrus factors of Florida, was recently consummated when the Skinner Machinery Co. of Dunedin, and Brogden, Ricketts & Haworth Co., Inc., of Tampa and Winter Haven, effected a combination of interests.

The Skinner Machinery Co., controlled by L. B. and B. C. Skinner, manufactures a line of packing house machinery and equipment, holding patents on many of the important items of packing house equipment under which this company practically controlled the production of this class of machinery in a widespread territory. Packing houses in the citrus belt of Florida, as well as in Porto Rico, the Isle of Pines and Cuba, are equipped with machinery from the Dunedin factory of the Skinner Machinery Co., while houses in the apple and peach growing sections also are largely equipped with machinery supplied by this concern.

The Brogden, Ricketts & Haworth Co., Inc., has been doing business in South Florida for the past two or three years. Beginning first as architects and construction engineers, this firm gradually expanded its business to take in the installation of equipment in packing houses, and more recently the treatment of fruit for shipment to Northern markets, applying what is known as the Brogdex method in a number of the packing houses of the state.

The expansion of both businesses and the similarity of many of the lines controlled by both, led to the closer affiliation of the two concerns.

L. B. Skinner and B. C. Skinner, by this arrangement, become directors of the Brogden, Ricketts & Haworth Co., and together with H. C. Ricketts will assist in the management and direction of the Florida activities of the organization. E. M. Brogden, president, and Albert Haworth, secretary and treasurer of the company, left immediately for California to organize the Pacific coast business of the company, a Los Angeles branch office having been opened last month. This has been in charge of Austin Holcomb, well known on the coast, as vice president in charge of Pacific coast operations, and it is said there is a large business in sight.

In the course of their operation in Florida, the Brogden, Ricketts & Haworth Co. developed a number of patents covering improvements on various packing house machines manufactured by the Skinner Machinery

Company. The latter company was unable to make use of these without the Brogden, Ricketts & Haworth Co., while that company, by reason of other patents owned by the Skinners, could use their improvements only upon Skinner Machinery. The affiliation perfected disposes of these handicaps, so that in future either company may deliver complete machinery, including all improvements, which it is said will be of considerable advantage to citrus shippers.

In addition to its other lines, the Brogden, Ricketts & Haworth Co. recently has purchased the patents upon what is known as the Sykes pack. This is a new method of packing citrus fruits developed and tried in California last season with very great success. It does away with the necessity for separate tissue wraps in the handling of oranges and other citrus fruits, and is said to put such fruits on the market in better condition than when tissue wraps are used, at the same time saving a large portion of the usual packing costs. Eastman F. Smith, formerly sales manager for the Sykes pack, now is associated with the Brogden, Ricketts & Haworth Co. as general agent in the Pacific coast field.

Doing away with the use of tissue wraps, of course, would do away with the identification upon the fruit itself, but the Brogden, Ricketts & Haworth Co. recently also has acquired the patents upon what is now called the Brogden branding machine, which electrically brands any given trademark or brand upon each individual fruit. It is claimed this offers many advantages over the use of a tissue wrap, as it usually is the custom of northern retailers to remove the tissue wraps when displaying fruit for sale, while the electrically branded trademark cannot be removed, and must always remain as a definite means of identification to consumers. The new machine is declared to be very fast, and to be very inexpensive in operation. Its brand is clear cut and cannot be erased, yet does no harm to the fruit, even adding to its value in the eyes of consumers.

B. C. Skinner stated that work will be started shortly at Dunedin on the manufacture of the Brogden branding machines. These previously have been produced in California only on relatively small scale. Mr. Skinner regards this branding machine as possessing great potential value to the citrus industry both in Florida and elsewhere.

Tractor and Truck vs. Horse and Mule

By G. B. Ayres

The settlers in those States which now comprise the corn belt of the United States, found a soil that was so rich and productive that it required little work in attention to the crops and no expensive equipment for the pioneer to make a living, especially as the conditions of living at that time were not expensive. A rich river bottom cleared or a prairie upland would produce all of the crops wanted under this primitive life. The land was cheap, labor was plentiful and the purchases required were few. Then there were few cities and no demand from Europe, which fed itself.

As more settlers came in and the farms decreased in size, the farmer who had the better land and the larger family was able to tend larger crops and this caused the other farmer who was not blessed with as rich land or as much help to search for labor saving machinery. The step from the sickle to the cradle and from the cradle to the reaper was forced by this struggle of one farmer to meet the competition of his neighbor. So there was a natural progression from the crude methods of the pioneer located on the rich land to the modern farmer as this stored up life was exhausted.

A few years ago the drift became noticeable from the farm to the city and this drift was caused because of the struggle to make a livelihood and perhaps save some money for old age. For the first time in the history of the United States the census for 1920 shows more people living in cities and towns than in the country. When this movement was seen, the reason for it was searched out and the men who were best informed found that it was because of the fact that many farms were no longer producing a living for the owner. It then came about that a careful account of the expense on the farm and the money received for what was raised on the farm showed that there was money losses that could be avoided. It was realized then that to be a successful farmer the man not only had to be a hard worker and understand crops and stock but even more, he had to know when and how to buy and to sell. He had to know the best machinery and what was the cheapest for his purpose because there were others in his same neighborhood who had this machinery and who were enabled to raise more with less work and as labor increased in cost this meant cheaper production and he had

to sell his products in competition with them.

As the intelligent farmer thought and read he found that he, in fact, was running a factory which represented the price of his land and the labor on its represented the pay roll of the factory and his crops represented the furniture or other things which the factory might manufacture. He found that it was just as necessary for him to keep down his expenses as it was for the factory owner to keep down his expenses. He found that in a great many cases the factory owner had to have extra boilers or engines in order to meet the possibility of a breakdown in his plant; that the cost of this was called a "ready to serve" expense and that in some instances it was very heavy. For instance, an electric light plant or other public service, on which a great many people depended, had to have twice the amount of machinery in order that if part of it broke down their customers would not be put to the inconvenience caused by a total closing down of the plant.

A few years ago the fire departments were all horse drawn and they were compelled to keep enough horses to meet any possible requirement in case of fire. This was a great expense because there was not only the purchase price of the horses but there was the daily feed and care of the horses whether there were any fires or not. A horse was fed, kept shod, and had veterinarian care for 365 days in the year when it might not answer 12 fires during the same year.

Here was a "ready to serve" expense that caused an instant appreciation of the automobile equipped fire department. The cost of the machine could not be avoided but it was found that instead of having to feed it 365 days every year it only used gasoline and oil when it answered the call for a fire. In other words the "ready to serve" expense was greatly reduced. The farmer, when he commenced to keep his account of his expenses soon found that he was very much in the position of the fire department; that he was feeding and caring for, shoeing and doctoring his horses for 365 days out of the year when his field account showed that he only used them about 85 days in each year.

It may be questioned whether he knew this before the farm tractor was first used or whether the farm tractor called his attention to this fact. At least, there was only one

thing that he could do that would save this "ready to serve" expense and that was to do what the fire department was doing.

In Chicago during the six years ending April 30, 1918, auto trucks, one ton or over, increased 941 per cent and this in view of the fact that the trucks in the city are used many more days than the horse on the farm and hence the percentage of "ready to serve" expense would be much less. Of course the motor truck was perfected before the farm tractor and yet in seven of the corn belt states the last census shows that twelve out of every one hundred farms have a tractor. Now that the tractor is past the experimental stage we can expect a much more rapid increase in its use on the farms.

There is another reason that this increase in the use of tractors will be more rapid. With the use of every tractor, there will be that many horses out of a job. There can be no decrease in the cost of raising the horse.

There are only ten states which produce more horses than they use at the present. The states south of the Ohio River and east of the Mississippi, with Arkansas and Louisiana, do not raise one-fourth of the work animals that they use. It is the demand from these states which even today gives the corn belt farmer enough for his mule colts to give the horse man some argument. What if this demand suddenly was removed? The demand for the horse is temporarily sustained by the fact that in 1921 eighty out of every one hundred horses had reached the age of 12 years—the average life of a horse. The cost of a horse, both in purchase price and upkeep will be its own death warrant. The old law, of supply and demand is still in force, but the demand must be there and this demand is going to be governed by the price. Whenever that price, fixed by the upkeep of breeding stock and carrying expense of the produce, becomes too high for the purchaser it means just one thing, the demand is going to be transferred to a substitute. When the demand is removed, the price is going to go down, without regard to the cost of production.

One argument that the user of horses on the farm always cited was the market which the owner of the corn belt horses had in the South for mules. The cotton planter before the invention by Whitney of the cotton gin only raised as much cotton as he

Situation of Citrus fruit Growers in Italy

Rome, Nov. 9, 1921

Dear Sir:

Regarding the much discussed question of the exportation of Italian citrus fruits to the United States, I am enclosing herewith translation of an article on this subject which appeared recently in "Il Sole" and which may be of interest to the Bureau.

Very truly yours.

H. C. MACLEAN,
American Commercial Attache.

Italian Citrus Fruits

could clean. After the cotton gin was invented he found that he could clean as much as he could raise but his limit was then upon how much he could get picked. He could plant and cultivate much more cotton even with his mules and old style plows than he could pick because of the scarcity of labor. As he was compelled to have this labor for the picking of cotton there was no reason why he should not continue to use it for the cultivation.

There is another reason that will make the cost of keeping a horse too high for the farmer. If the feed that is used to keep the horses was fed to live stock for each 50 pounds per day there would be produced annually 800 pounds of beef. Because the majority of people are now living in the cities and are not producing their food, every pound of food will become in greater demand and hence the feed to make it will be necessary for that use alone. It is because of this increased demand for food that will cause the farmer to dispose of any animal which will use the feed that he could make into beef or pork and thus increase his income. Today Europe is bankrupt and can only buy with its products. Until it can produce there will be little demand for our food, but as they get more to trade with, this demand will increase and the prices will go up.

For years there has been a constant effort to perfect a machine which would pick the cotton and within the past few years there has been developed one or two machines that cotton experts have declared to be successful. When this cotton picker comes into use in the South there will be no reason for the old style method of cultivation and the cotton planter will immediately buy the modern tractor and implements to plow and cultivate his cotton, as it will be unnecessary for him to continue to carry a large force of cotton pickers for the season when it is ripe. Thus the southern farmer will do away with this "ready to serve" expense the same as the corn belt farmer. When the market for mules is thus taken away from the income of the corn belt farmer he will quickly realize the increased cost of farming with horses.

As much as we may be lovers of horses and admire the faithfulness and service of "Old Dobbin", modern business methods will force the early coming of the tractorized farms as well as the motorized fire department.

Well arranged buildings on the farm save labor. Labor saved is money saved. Money saved is money made.

The conditions imposed on the importation of citrus fruits from Italy into the North American Union are truly disastrous. The Customs dues are now two cents for every pound. Sicilian growers, who are those who are most interested, state that these dues exceed the cost of lemons in Sicily, excluding loading and transportation. It is greater than that imposed upon objects of luxury, such as for instance, diamonds, which pay 10 to 20 per cent ad valorem, according to whether they are in the rough or not. In July lemons were compelled to pay as much as 5 cents each, (nearly 26 centesimi of a lire at par). This state of affairs is favorable to California growers, who oppose the application of a new tariff which contemplates a Customs payment of 1 1-2 cents on citrus fruits. This explains the diminution in importation. From November 1, 1920, to June 25, 1921, a little more than one quarter of the usual quantity of citrus fruits have been imported. During April, May, and June of the current year 112,000 boxes were imported, whereas during the same period for the year 1920, 665,200 boxes were shipped to the United States. But the future presents a still more menacing aspect. The days of our exportation are counted. As soon as California plants have reached full productiveness, we shall be entirely eliminated. Sixteen years ago California supplied only one quarter of the lemons consumed in the United States. The balance was furnished by Sicily. California has 33,450 acres of lemons, 22,651 of which are in full production, the rest not yet being in fruit. California producers have organized themselves into cooperative societies, which take 85 per cent of the produce of the cultivators. They pack the lemons and fix the prices, thus eliminating competition. No advertising could effect a major increase in the consumption of lemons, which

previously was confined to the spring and summer, but now is general the year round.

The foregoing does not promise well for Italian exportation in the future. It can not be said that it is alone a question of Customs; this serves at present as an obstacle, which, through sacrifice, might be overcome. The insurmountable difficulty will very shortly be the excess of American production. Italian production must immediately find new outlets. This is the duty of the Government. Has it not its commercial agents abroad?

\$200,000.00 SAVING ON ONE CROP FOR CITRUS AND VEGETABLE GROWERS IN MANATEE AND SARASOTA COUNTIES

While this is an estimate and depends on the total value of all perishables shipped this season, yet it may exceed this figure, so states Manager H. G. Gumprecht, of the Manatee Sub-Exchange. He further advises that the official news of a 10 per cent freight reduction, effective Jan. 1st, 1922 has been received from the Traffic Department of the Florida Citrus Exchange which started a nation wide campaign about nine months ago for a reduction of rates on all citrus fruit and vegetables and invited all co-operative marketing agencies and Farmers associations throughout the United States to support this movement.

The result is that the rate had been reduced 10 per cent effective January 1st, 1922, which together with the elimination of the war tax represents a saving to all shippers of fruit and vegetables of about \$46.00 per car. This is a splendid sample of what real co-operation can accomplish, and future moves along this line may be anticipated.

TO FEATURE RIO GRANDE FRUIT

Mission, Tex., Dec. 23.—Rio Grande Valley grapefruit will be featured at the banquet of the Western Fruit Jobbers, Jan. 14-20. A crate from the Albert Kalbflesch orchards at Mercedes has gone forward for Pres. Harding on instructions from R. B. Creager, of Brownville, the president's personal friend. The first solid car moved this week destined for Dallas. It was from the John H. Sharp orchards here.

Rooms where winter gatherings are held should be well ventilated; otherwise they are the places where many "colds" are caught.

True Today, as it has been for 35 Years

**Maximum Results
Minimum Cost
REAL MARKETING SERVICE**

CHASE & CO.

Main Office, JACKSONVILLE.

Bonded Salesmen in 102 Carlot Markets.

Than by planting a diversity of fruits, nuts, etc., about your grounds and by making your premises attractive with flowering trees, shrubs and plants? The nuts and fruits will yield a cash income and the ornamentals add to the value of your property.

**How Else
Can You Make
More Money?**

First cost of trees and the upkeep expense are small items in comparison with returns in money and pleasure. Start this year with at least a few specimens in odd corners, adding more as you can.

Write at once for our new catalog and planting guide. Our stock is complete, our trees are good ones and our prices will be found right.

Inter-State Nurseries

C. M. Griffing & Co.
Jacksonville, Florida



**The
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20 Miles to the Gallon of Gasoline

12,500 Miles to the Set of Tires

50 Per Cent Slower Yearly Depreciation
(National Average)

THESE owners' averages show that the Franklin gives a different performance than other cars.

Different—and better; not merely from an economy point of view, but also in comfort, ease of handling, and freedom from trouble and worry. We are prepared to demonstrate this on the road at any time.

Light weight, flexibility and direct air cooling are the principles which make these results possible.

OWEN FRANKLIN MOTOR CO.

101-103 Lafayette Street
TAMPA, FLA.

Crutchfield Says Marketing Line-Up Must Change

J. S. Crutchfield, president of the American Fruit Growers, in reviewing the present condition of the trade and the steps his organization is taking to meet the situation said that the fruit and produce industry in this country cannot prosper unless thoroughly and efficiently organized. Mr. Crutchfield predicted that during the next year there would be great changes in the marketing line up of many important fruit and produce shipping factors and pointed out that this part of the industry which is either unorganized or inadequately organized must be thoroughly reorganized with a view to effecting even and orderly distribution.

"Failures in business are three times as great as a year ago," said Mr. Crutchfield, "and undoubtedly this ratio will continue during the next year on account of so many concerns failing to readjust their affairs to meet the most competitive age in all history. The failure to secure prompt readjustment of freight rates caused large losses. Even though this will be averted to some extent by the 10 per cent reductions now in sight, the failure of the fruit and vegetable industry to better organize itself will continue to lead to large and unnecessary losses. The confidence of the buyer, as well as the grower, that the marketing of the product is in the

hands of a competent sales organization must be established."

Commenting on his own organization Mr. Crutchfield said that the American Fruit Growers is in a stronger position than ever before, not only in the markets of the country, but in the best shipping districts and that in many of the larger deals in the various markets it had taken undisputed leadership. For 1922 the company's program has been developed, and it is expected that its business will increase at least 50 per cent during the next year.

William H. Baggs, general sales manager, has been elected vice-president of the company. In addition to sales operations Mr. Baggs will direct and co-ordinate the company's general operations. He has for years been recognized as one of the leading authorities in the country on fruit and produce operation on a large scale. He has also had wide experience in transportation with railroad rate matters gained from some years connection with the B. & O. Vice-President Charles J. Brand, former head of the U. S. Bureau of Markets, will have charge of business extension and public relations and will devote his time exclusively to this important phase of the company's business.

FREE STATE SCHOLARSHIPS

Free Florida State Scholarships covering grammar school branches, high school subjects, civil service courses, and reading courses on various phases of agriculture given by correspondence, are now being offered to everyone by the State through the General Extension Division, University of Florida at Gainesville. Boys and girls, men and women, everywhere, regardless of age or previous school advantages, who want more education can get it in this way at home without loss of time.

Applications for these scholarships will be accepted by the General Extension Division until the 15th of February, instead of February 1st, as previously announced.

At present hundreds of citizens are availing themselves of the opportunity to get more training at home through these state supervised Correspondence-study courses. A large number of people are taking common school branches and high school subjects in order to better fit themselves for positions they desire. Teachers are

taking review courses in preparation for State and special teachers' certificates. There is also a large enrollment in the courses which assist the student in passing civil service examinations, and in agricultural reading courses.

Every citizen in Florida is entitled to take these courses and students have the advantage over those taking correspondence-study in any other way, since the General Extension Division courses are State supervised, and the work finished through this Division of the University of Florida is accepted by the state institutions without further examinations.

Send in your application today, and state that you have read of this splendid opportunity in this paper.

UNIQUE CITRUS EXPERIMENT STATION AT LAKE ALFRED

In a recent interview with the manager of the New Experimental Station, J. H. Jeffries, we were surprised to learn that the new Quarantine Station that he is erecting now on the plot of land set aside as the experi-

mental tract, is the only one to be in existence in this country. The idea of the house is to try out various citrus plants that are sent in from foreign lands until the specialist has ascertained that they are free from all dangerous insects or disease. These plants are kept in the station from one to two years and then are to be set out for experiment. The house is 48 by 32 feet and the foundation is made up of cement and 18 inches deep below surface. There are to be moats or gutters running along the cement foundation, one on the inside to be filled with oil and one on the outside to be filled with water. This will prevent any insects from creeping in the house through the walls and incidentally making it "bug proof." The building will be very modern and the framework is embedded in the cement thereby making the joints tight. The roof and walls will be covered with copper and sand screening. The government will furnish a great deal of the foreign plants and Mr. Jeffries will make it a point to see that they are free from germs and diseases before planting them. The building will be completed so that everything will be in readiness by the first of the year.

BUMPER CROP SATSUMAS IS MARKETING IN ALABAMA

The following is clipped from the Mobile Register and shows the progress made in the culture of the Satsuma Orange and the co-operation extended those who have made this business what it is today:

Showing optimism over the Satsuma crop this year, which is more than twice as large as any previous crop, and urging a solid front of growers against the growing competition of other fruit interests as the Satsuma earns a place on the nation's table, speakers from every section of Mobile and Baldwin counties celebrating Satsuma Day here told of the steps by which the Satsuma is carrying out its golden promise to the growers of this county. More than 200 people were in the Cawthon Vineyard and heard the speakers tell of the progress of the industry, which has grown to a volume of 250 cars shipped outside of the state this year.

Speakers stressed the idea of having a Satsuma Day put on each year in such a manner as to attract the attention of the country to Mobile and Baldwin counties. Suggestions by several of the speakers that beginning next year, Satsuma Day be made a rival of the famous flower fetes of Southern California cities met with applause.

KOREX COATS AND KEEPS

Korex is creating wonderful interest and attracting wide-spread attention among citrus growers, packers and dealers.

BECAUSE—

Korex is a patented process, discovered and originated by the present owner of the process, under whose patents users are fully protected.

Korex is a chemical and mechanical method of treating fruits in the packing house to prolong its freshness and native flavor for an indefinite period.

Korex prevents shrinkage and increases the keeping quality and improves the appearance of the fruit.

Korex retains within the fruit up to the time it is eaten that distinctive flavor and succulence which is characteristic of the fully ripened fruit just picked from the tree.

Korex contains no harmful ingredients. It is pure white in color and is absolutely harmless. The solvents quickly evaporate and only a thin coating of parafine and native oils of the citrus tree remain.

Korex contains no bleaching or coloring agents. The fruit treated by this method retains its natural color.

Korex has stood up to every claim made for it under the most exacting and prolonged tests.

Growers, packers and dealers are invited to visit our laboratories and plant at Haines City, see the process in application and test the keeping quality of fruit treated by this method.

KOREX COATS AND KEEPS

Rex McDill

Haines City, Florida

K OREX OATS AND KEEPS AND KEEPS ON KOATING

Judge Edwards Denies Injunction

IN THE CIRCUIT COURT FOR POLK COUNTY, FLORIDA

Brogden, Ricketts & Haworth Company, a corporation,

vs.

Rex D. McDill and

Rex McDill Company, a corporation.

The above cause having come on for hearing upon motion of the complainant for a temporary injunction as prayed for in the bill of complaint, and the court having taken testimony in said cause, and the same having been fully argued by counsel for the respective parties, upon notice given, doth find that the complainant has failed to establish by a fair preponderance of the evidence the allegations of its bill of complaint.

It appearing to the court from the testimony presented that the defendant, Rex. D. McDill first discovered the process described in the bill of complaint, and the court further finding from the testimony submitted and by stipulation of counsel in open court, that the right to the discovery and invention of the process described in the bill of complaint, is now the subject matter of an interference and litigation in the Patent Office of the United States between the complainant and the defendant Rex. D. McDill, thereupon, upon consideration.

IT IS ORDERED, ADJUDGED AND DECREED That the application for temporary injunction and motion therefor, be and the same is hereby denied.

DONE AND ORDERED at chambers in the City of Lakeland, Florida, on this 13th day of January, 1922.

(Copy)

Signed JOHN S. EDWARDS, Judge.

K OREX OATS AND KEEPS AND KEEPS ON KOATING

Rex McDill, Haines City, Fla.



For Nearly Forty Years

The Glen Saint Mary Nurseries Company has placed quality ahead of every other consideration. The first great care has been to produce trees that will give satisfaction to our customers, not only when first planted but after they have reached the fruiting age.

To the planter the most important thing is the quality of the trees; and second, the service which is given to him by the nurseryman. The trees and the service furnished by the Glen Saint Mary Nurseries Company—the largest nurseries in Florida—have in the past satisfied and will continue to satisfy the most exacting purchaser.

SOUTHERN PLANTING FACTS

our book for 1922, describes the varieties of citrus, shade trees and ornamentals we grow, and illustrates many in natural colors. It also contains much information of value to the prospective planter and to the present grove owner. Write for a copy.

Glen St. Mary Nurseries Co.

Glen St. Mary Belle Avenue Florida Winter Haven

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Tampa, Fla.

TOP O' THE TOWN

European Plan, Fireproof 300 Rooms With Baths

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Early varieties, picked fresh from our groves daily. Packed in all size boxes from 75c up. Shipped express to any address. Special prices by the hundred. No order too small or too large. WATERS FRUIT & PRODUCE CO., Phone 2429, 502 Cass St., Tampa, Fla.

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Jacksonville, Fla.

Get Dec. 1st, 1921, Reduced Price Lists before buying

Now furnishing 'Simon Pure' and 'Gem Brands

THE CITRUS INDUSTRY

Thirty-one

CLASSIFIED ADVERTISEMENTS

The rate for advertisements of this nature is only three cents per word for each insertion. You may count the number of words you have, multiply it by three, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

THE CITRUS INDUSTRY.
411 Curry Bldg., Tampa, Florida

REAL ESTATE

WANT to hear from owner having farm for sale; give particulars and lowest price. John J. Black, 180th Street, Chippewa Falls, Wisconsin. Dec. 3t

GROVE FOR SALE—40 acres in tract all fenced, 10 acres in six year-old-grove, half in Valencia Oranges, the other half in grapefruit. Located in famous Lake Garfield section, about 7½ miles from Bartow, on improved highway. Price \$9,000, half cash, balance in one, two and three years, 8 per cent. For further information call at 59 Wilson Avenue, or write P. O. Box 263, Bartow, Fla.

THE GROVE YOU WANT—You'll find it fully described and correctly priced in our booklet "GROVES AND FARMS" just issued. Contains full information as to principal groves in seven counties in Central and South Florida. Send for copy. Dotson & Hammock, 816½ Franklin St., Tampa, Florida. Oct.-3t

FOR SALE—five-room house with bath complete, also screened sleeping porch, corner lot 100x150, street paved on two sides, two-room building in rear used for garage and shop. Price \$5,000, half cash, balance in one, two and three years at 8 per cent. For further information call at 59 Wilson Avenue, or write P. O. Box 263, Bartow, Fla.

EXCEPTIONAL GROVE OPPORTUNITY—Owner of fifty acre grove just coming into bearing and in prime condition has other business interests which have recently developed to demand his attention and require some cash. He instructs me to sell at a surprisingly low figure. This is a real bargain, such as seldom available. Might divide. Write for particulars, Carl C. McClure, Fort Myers, Fla.

SELL YOUR PROPERTY, city, grove, farm or unimproved, by our quick and satisfactory method; it brings cash buyers. Send for particulars. You are in time to have your property listed in our booklet which has circulation of over 7,000, if you act quickly. Dotson Hammock, 816½ Franklin St., Tampa. Phone 4772. Oct.-2t

FOR SALE—An 80-acre tract best land in St. Lucie County, Florida, location west of Fort Pierce, with 12 acres bearing grove, 3 acres sugar cane, dwelling and all improvements. A rare bargain, good paying investment increasing in value. Address Owner, Box 168, Vero, Florida.

BEAUTIFUL YOUNG GROVE FOR SALE—Located on the Ridge near Haines City. 40 acres in the tract all fenced, 28 acres in six-year-old grove, half Valencia Oranges and half grapefruit. Magnificent lake in this property, nice building site. Trees are all in good condition and well fruited this season. Be sure and see this grove, it is a good buy at \$21,000. Will accept half cash and balance in one, two and three years at 8 per cent. For further information call at 59 Wilson Avenue, or write P. O. Box 263, Bartow, Fla.

NURSERY STOCK

EARLY BEARING Papershell Pecan trees, budded or grafted and guaranteed. Great shortage this year. Write for catalog today. Bass Pecan Company, Lumberton, Miss.

Citrus Trifoliata Seedlings: 10-12 inches \$10.00 per thousand; 12-18 inches \$15.00 per thousand; 18-24 inches \$20.00 per thousand. Griffing Nursery, Port Arthur, Texas.

HUGE PROFITS FROM OIL—We tell you how to accumulate a fortune by proper investments. Free publication with authentic information and maps. Write Hasselquist & Borgert, 710 Montana Bldg., Lewistown, Montana.

FOR EXCHANGE

WHAT HAVE YOU TO TRADE for farms, plantations and city properties in both southern and northern states. Can put you in touch with several extra special bargains now. Write, Hunter-Souders Co., Suite 410 Stovall Bldg., Tampa, Fla.

MISCELLANEOUS

FOR SALE—Dairy and stable manure, car lots. Link & Bagley, Box 2461, Tampa, Florida. Jan. 6t

MAKE EVERY DOLLAR COUNT! Buy your furniture here—pick from our complete stocks—be better satisfied. All goods marked in plain figures. We pay your transportation to and from Tampa and deliver your purchases free. HODGE & SHERMAN, Tampa, Fla.

We Collect Accounts, Notes—Claims, anywhere in world. No charges unless we collect. May's Collection Agency, Somerset, Ky. 6-20-2t

FOR SALE—Choice California citrus lands. One dollar per acre monthly. R. B. Davy, Hayward, Calif. Nov.-2t

COME TO TAMPA AT OUR EXPENSE!

We refund transportation to purchasers and pay freight. All goods marked in plain figures. You can save money here and be better satisfied. HODGE SHERMAN, Tampa, Fla. Nov. 1t

IRRIGATED CITRUS FRUIT LAND (cleared) in Lower Rio Grande Valley. No cash down. Pay for land with crops. Fruit month earlier than elsewhere. No fertilizer. Only few plots available. Write immediately. Leon Wangler, Santa Maria, Texas.

WANTED—To hear from owner of land for sale. O. K. Hawley, Baldwin, Wisconsin. 1t

FRUIT AND BERRY LANDS—What do you want to grow? How much land do you want and what terms? Railroad Farm Bureau, San Antonio, Tex. Make your own paints, varnishes, stains, turpentine, oil and shellac at one-half the dealers' price. Complete set of all these formulas for 35 cents. Wm. McDermott, 6521 South Justine St., Chicago, Ill.

FOR SALE—Tracts in famous Turnbull Hammock on Indian River, where Indian River oranges, so well known for their sweetness and fine flavor, grow. Rich soil with marl subsoil underlaid with blue clay. Pure water. Fine citrus, pecan, trucking and Irish potato land. Your correspondence solicited. C. H. Sundmacher, Box 1153, Jacksonville, Fla. Jan.-1t

LOOKING for Florida property for home or investment? Fruit, truck, poultry or stock farms? Orange groves, winter homes? Write Dr. Fellows, Newburyport, Mass. New England agent Crystal Lake Subdivision. Apr.-3t

Read "RABBIT JOURNAL," St. Francis, Wis. Two years \$1 trial 25c. 1t



Send for this free book. It describes the benefits of Agricultural Gypsum. Try some this fall on your alfalfa, clover and other legumes. Watch the result.

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TAMPA, FLORIDA

L. M. HATTON, President

Thirty-two

SCUPPERNONG GRAPES FOR EVERY FLORIDA HOME

No country home in Florida is taking full advantage of the state's natural resources, if it hasn't an arbor of scuppernong grapes.

The owner of that home is also missing an annual feast and source of supply for jellies and preserves throughout the year which will come as near costing him nothing as anything he can grow.

The scuppernong is closely related to our wild fox grape and there are a number of varieties ranging from early to late in maturing and either white, black or red in color.

The scuppernong is not a bunch grape and requires little pruning. In fact, pruning has to be carefully done. It is not done at all by many growers, those most careless.

An open plat of ground, not sapped by roots of adjoining trees, is ideal for a place to plant. Vines should be set fifteen or twenty feet apart and trained, by a string or post, to the arbor overhead. The arbor varies with the taste or resources of the individual, but usually consists of wooden stringers, or even rails, laid over the ends of posts at a height of about six feet. Cross stringers are laid on these every two or three feet. The vines soon cover the stringers, spreading in all directions and form a network which will support the weight of a child or small person within a year or two. Fruit is developed at regular intervals all along the vines in clusters of from two dozen or more down to single grapes.

Falling leaves keep the ground under the harbor well mulched and an application of commercial fertilizer raked in in the late fall will insure a plentiful crop of grapes next season.

During winter, when the vines are dormant, such pruning as is necessary should be done, dead wood and vines removed and repairs to the arbor made, as any pruning or bruising of the vines during the growing season will result in severe "bleeding" and even the loss of the vine.

A few vines of different varieties set in a corner of the orchard or garden will soon furnish an abundant supply of grapes during early summer.

County and home demonstration agents are in a position to give much practical information on grape growing. Let them help you.

A million dollars a year is the price Florida pays for the poultry disease known as sorehead. That shouldn't be.

THE CITRUS INDUSTRY

PRUNING CITRUS TREES

Do you put off pruning your citrus trees? Pruning is one of the most important phases of citrus culture and perhaps the most neglected. During the last two or three years the labor situation has been serious and many groves had to go neglected. As a result this putting off has become somewhat a habit, especially during busy seasons thinks County Agent DeBusk of Lake County.

It is highly important that all groves be looked over during winter and wherever pruning is necessary, do it. There is much melanose and some withertip scattered throughout the citrus belt. Many groves have much dead wood, and wherever it appears, take it out and destroy it immediately. Do not leave it in the groves. Remember, dead wood in the citrus grove means disease in nearly every case.

In pruning make cuts smooth and close to the trunk or the large branch from which cut. Be sure to cut deep enough to get all dead wood. Large cuts should be waterproofed by painting.

Aside from cutting out watersprouts, little green wood should be pruned from grapefruit and orange trees. The old method of pruning to admit sunlight to all branches is a bad practice.

It is not best to prune out vigorous growth from the inside of citrus trees, especially grapefruit. These interior branches are good fruiters. Furthermore, by pruning them out wood growth and fruiting are forced to the outer branches.

In pruning citrus trees, first cut out all dead wood, and then prune lightly and cautiously.

PREVENTING WITHER TIP IN CITRUS TREES

What precautions do you take to prevent withertip in your citrus grove? Dr. O. F. Burger, plant pathologist of the Florida Experiment Station, says that trees affected with withertip should be pruned of infected branches and twigs. He goes further and says dead wood should be kept pruned out of all trees, whether the disease is present or not. All dead and infected limbs and twigs should be cut away. If the trees are badly affected a severe pruning may be necessary.

A clean-up spray of bordeaux mixture and oil will kill the spores still clinging to the surface of the tree after pruning. The oil is to control purple scale. If bordeaux is used without oil or a follow-up insecticide,

the scale will increase.

Keep the trees in good, healthy condition. In the spring use a fertilizer rich in plant food.

Withertip is a disease not only of trees in the grove, but also of young trees in the nursery. It rarely attacks trees in a healthy condition. Trees weakened by drought, cold, lack of proper food, or over-bearing, are subject to withertip.

This malady appears as a withering and dying back of the twigs and branches, which is generally accompanied by an exudation of gum. The young terminal branches become stained and wither. The leaves yellow and drop. The affected tree usually appears stunted and sickly.

RUST MITE CONTROL

Rust mites are liable to appear when least expected. A close watch should be kept for them, especially if you intend holding your fruit for the late markets.

Where these rust mites appear, spray with some sulphur solution. An application of purely lime-sulphur, 1 to 60, is an effective remedy. It also means death to any red spiders that may be present.

Sometimes it is convenient to spray for scale insects and rust mites at the same time. If this is the case, spray with a soluble sulphur solution, added to an oil emulsion. The soluble sulphur kills the rust mites, and the oil kills the scale insects. Do not use lime-sulphur solution with ordinary oil sprays, as injury to the trees is likely to result from this combination.

If in doubt, consult your county agent. It is his business to help you. Help him to attend to his business.

There isn't a machine or an animal entrusted to our care that will give us the best there is in them without eternal vigilance on our parts. It's a law of nature.

Iodine touched to the inflamed parts is good for sorehead in chickens. Epsom salts is also good and may be given by dissolving in the drinking water.

If, under ordinary circumstances, weevils eat 20 percent of your corn, how much money will it take for you to replace this loss next spring or summer?

The employing of a good county or home demonstration agent is just about the best investment a county can make.

